



**DELHI UNIVERSITY
LIBRARY**

DELHI UNIVERSITY LIBRARY

(TEXT-BOOKS)

Cl. No. 7-1-11

Date of release for loan

Ac. No. 2-1-11

This book should be returned on or before the date last stamped below. An overdue charge of 25 Paise per day will be charged for the first two days and 50 Paise from the third day the book is kept overtime.



AN OUTLINE OF THE
ECONOMIC HISTORY OF ENGLAND

LONGMANS, GREEN AND CO LTD

39 PATERNOSTER ROW, LONDON, E C 4
6 OLD COURT HOUSE STREET, CALCUTTA
53 NICOL ROAD, BOMBAY
36A MOUNT ROAD, MADRAS

LONGMANS, GREEN AND CO.

114 FIFTH AVENUE, NEW YORK
221 EAST 20TH STREET, CHICAGO
88 TREMONT STREET, BOSTON

LONGMANS, GREEN AND CO.

480 UNIVERSITY AVENUE, TORONTO

An Outline of the Economic History of England

BY

D. W. ROBERTS, B.Sc. (ECON.)

Staff Tutor, University of Leeds

(Late Senior Lecturer, Commerce Dept, Portsmouth Municipal College)

LONGMANS, GREEN AND CO.
LONDON + NEW YORK + TORONTO

BIBLIOGRAPHICAL NOTE

First Edition - June 1931
Second Edition July 1932
New Impression April 1933
Third Edition - November 1933
With additional matter
New Impression December 1934
New Impression - October 1935

Printed in Great Britain

PREFACE

THIS book is an attempt to provide an outline of the Economic History of England, as an introduction to a more serious study of the subject. It is intended primarily for students, but it may prove of some value to the general reader.

In Part I, the chief economic movements from 1066 to 1485 are sketched in broad outline ; in Part II a rather more detailed outline is given for the period from 1485 to 1660. These two parts are intended chiefly as an introduction to the third part, which forms the main section of the book. This deals with the epoch 1660 to the present day, covering the period of the Industrial Revolution, and the previous century of which it was the culmination.

Only a few essential maps, diagrams, and statistics have been included, and illustrations have been entirely omitted to keep the book within a reasonable compass. For maps and statistics the reader is referred to the standard reference books, of which a brief list is given at the end of each part, those at the end of Part III being the most valuable from this point of view.

The main stress is on economic development but the introductory chapters to each part recall outstanding political events. References have also been made to economic developments in foreign countries, in so far as they throw light on contemporary events in England.

The author hopes the book may provide a serviceable textbook for those beginning to study the subject. It should prove useful for those preparing for the examinations of the Royal Society of Arts in Economic History, and for various School Leaving Certificates.

The author wishes to express his sincere gratitude to the Warden of Coleg Harlech, Mr. B. B. Thomas, M.A., for reading

the manuscript and making very valuable suggestions, and to Mr. R. T. Jenkins, M.A., for some valuable advice ; finally to his wife, for her constant encouragement and valuable assistance while the book was in progress.

D. W. R.

PREFACE TO SECOND EDITION

In the present edition a few minor alterations have been made in the text, together with some corrections which have been suggested in various reviews. The author takes this opportunity of thanking the reviewers concerned for pointing them out.

Additional matter has been incorporated in an attempt to bring the book up to date. The change in the fiscal policy has necessitated the recasting of the section in Chapter XI dealing with colonial policy. A new section has been added to Chapter XIII on social policy, and the final chapter has been expanded by the addition of new sections describing briefly recent changes in English Economic History.

D. W. R.

LEEDS, *November* 1933.

CONTENTS

PART I

TO 1485

	PAGE
INTRODUCTION.—THE INVASIONS	1
The Romans—The Anglo-Saxons—The Danes—The Normans—The Feudal System—Domesday Book—General results.	
CHAPTER	
I. VILLAGE LIFE IN THE MIDDLE AGES	6
The Manorial System—The village—The villagers—The land: arable, waste, and common—Holdings and tenures— The manorial court—The officials—Advantages and defects of the system—The beginning of decay—The Black Death— The Peasants' Revolt—Enclosure and commutation.	
II. TOWN LIFE IN THE MIDDLE AGES	19
The character of mediæval towns—Origin of towns—The town charter—The gild merchant—Craft gilds—Break-up of the gild system—The journeymen gilds—The livery com- panies—The woollen industry—Industrial growth.	
III. TRADE IN THE MIDDLE AGES	31
Difficulties of trade—The influence of the Church—Internal trade—Fairs and markets—Growth of internal trade— Foreign trade—The Italian cities—The Hanse League— English merchants—The staple—The Merchant Staplers— The Merchant Adventurers—Trade expansion.	
REFERENCE BOOKS FOR PART I	45

PART II

1485-1660

	PAGE
INTRODUCTION	47
The accession of the Tudors—The Great Discoveries—The pioneer countries: Portugal and Spain—The gold and silver discoveries—The beginning of European expansion—The results of the discoveries—The decay of mediævalism—The age of Elizabeth—The Renaissance—The Reformation—The accession of the Stuarts.	
CHAPTER	
I. CHANGES IN AGRICULTURAL ORGANISATION	57
The wave of enclosure—Effects on the village organisation—The general results of enclosure—Government policy towards enclosure—Land sales and speculation—The dissolution of the monasteries and confiscation of Church property—The effects of land sales—Agriculture during the Stuarts.	
II. THE GROWTH OF INDUSTRY	67
Growth of towns—The woollen industry—The decay of the guilds—The domestic system—The decay of towns—The "New Draperies"—Coal, iron and shipbuilding—The crafts—Economic nationalism.	
III. TRADE AND COLONISATION	76
The decline of the alien merchants—English commercial expansion—The chartered joint stock companies—The Russia Company—The Africa Company—The Levant Company—The East India Company—The beginnings of colonisation—The New England States—The London and Plymouth Companies—English expansion in the New World.	
IV. THE MERCANTILE SYSTEM	89
The Bullion Theory—The Balance of Trade Theory—Regulations for agriculture—For industry—For trade—The Navigation Acts—The Old Colonial System—Expansion of colonial trade—Colonial opposition—The importance of the policy.	
V. TUDOR SOCIAL POLICY—THE POOR LAW	100
The pauper problem—Middle Ages—Causes for increased pauperism—Government policy—The Bridewell—The Poor Law of 1601.	
REFERENCE BOOKS FOR PART II	105

CONTENTS

ix

PART III

1650-PRESENT DAY

	PAGE
INTRODUCTION	107
<p>The Civil War—The Interregnum—The Restoration— The Revolution of 1688—The supremacy of parliament— Economic change—The agricultural revolution—The industrial revolution—The commercial revolution—The revolution in social life.</p>	
CHAPTER	
I. AGRICULTURE DURING THE EIGHTEENTH CENTURY	114
<p>The food problem—The enclosure movement—The method of enclosure—The results of enclosure—Pioneers of agricul- tural progress: Jethro Tull, Lord Townshend, Robert Bake- well—Obstacles to progress—Arthur Young—Agricultural progress.</p>	
*II. COMMERCE AND COLONISATION DURING THE EIGHTEENTH CENTURY	125
<p>Commerce and Industry—Commercial expansion—Internal trade—Foreign trade—The extent of foreign trade—The Chartered Companies—The East India Company—Other trading companies—Colonial expansion—Colonial trade.</p>	
III. BANKING AND INDUSTRY DURING THE EIGHTEENTH CENTURY	139
<p>The rise of banking—The goldsmith bankers—The Bank of England—Country banks—The results of banking—The growth of industry—The cloth industry—Other textiles— Other industries.</p>	
IV. THE COAL AND IRON INDUSTRIES	152
<p>Coal-mining—Mining problems—Mining progress—Trans- port of coal—Social conditions—The Mines and Collieries Act—The iron and steel industries—The discovery of coke- smelting—The inventions of Cort—Further improvements —Steel—Huntsman—The Bessemer process—Later inven- tions—Open hearth basic steel—The importance of coal, iron and steel.</p>	
V. THE DEVELOPMENT OF MEANS OF TRANSPORT—CANALS, ROADS, BRIDGES	165
<p>The need for transport—River transport—Canals—James Brindley—The canal mania—Benefits of canals—Their defects—Road transport—The turnpike roads—Benefits of turnpikes—Their defects—General condition of roads— The road engineers: Metcalf, Telford, Macadam—The end of the turnpikes—Public roads—Bridges.</p>	

CHAPTER	PAGE
VI. THE AGE OF INVENTION	180
The spirit of invention—The course of the inventions: John Kay, James Hargreaves, Richard Arkwright, Crompton—Weaving inventions: Edmund Cartwright— Steam-power—Early inventors: James Watt.	
VII. THE FACTORY SYSTEM	192
The growth of industry—The domestic system—The great industrialists—The capitalist system—The concentration of industry—The Midlands—South Wales—The effects of the factory system—Early abuses.	
VIII. THE REFORM OF ECONOMIC AND SOCIAL CONDITIONS	201
<i>Laissez-faire</i> —Opposition to <i>laissez-faire</i> —Factory abuses— The reformers: Robert Owen, William Ashley Cooper, Edwin Chadwick—Factory legislation—Mines and collieries regulations—Workmen's compensation—The truck system— The sweated industries—Public health reform—The new mercantilism.	
IX. THE AGRICULTURAL REVOLUTION	214
Agriculture and the industrial revolution—The French Wars—Farming progress—Thomas Coke—The post-war depression—The corn laws—The Anti-Corn Law League— The repeal of the corn laws—The good years—The great depression—Agricultural reconstruction—Some recent developments.	
X. MECHANICAL TRANSPORT	226
The transport problem—The origin of the railways—The problem of motive power—George Stephenson—The rail- way age—The construction of the railway net—The results of the railways—State control of railways—Steam shipping—The results of steamers—Means of communica- tion—Some modern tendencies.	
XI. COMMERCE, COMMERCIAL POLICY, AND COLONISATION	241
Commercial expansion—Internal trade—Foreign trade— Trade and the French Wars—The Continental System— Commercial policy—The free trade movement—Sir Robert Peel and free trade—The repeal of the Navigation Acts— Colonial policy—The end of the Old Colonial System— The new colonial policy.	

CONTENTS

xi

CHAPTER	PAGE
XII. BANKING AND FINANCE	254
The banking system—Banking experience during the French Wars—The Bank Restriction Act—The Bullion Committee—The resumption of cash payments—Banking reform—The joint stock deposit banks—The Bank Charter Act—The growth of banking—Public finance—The national debt—Changes in taxation—The income tax—Direct taxation.	
XIII. SOCIAL POLICY IN INDUSTRIAL ENGLAND	266
The pauper problem—Causes of increased pauperism—The critical years—Measures for relief—Poor law anarchy—The Poor Law Amendment Act—The settlement laws—The general results of the new legislation—The changing nature of the problem—Recent changes: Classification, The old, Insurance—The unemployed—Recent changes—Conclusion.	
XIV. THE RISE OF THE TRADE UNIONS	279
Mediæval associations—The Trade Clubs—The Combination Acts—The repeal of these acts—Trade unions, 1825-1875—The Chartist Movement—The New Model Trade Unionism—The Act of 1871—Trade Unions, 1875-1906—The new unionism—The reaction—The Trades Disputes Act—The Osborne Judgment—Recent changes.	
CONCLUSION	290
The New World and some of its problems—Recent changes—The economic crisis—The abandonment of the Gold Standard—Partial recovery—The change in commercial policy—The state.	
REFERENCE BOOKS FOR PART III	298
INDEX	301

MAPS, etc.

	PAGE
MAP OF A TYPICAL MANORIAL VILLAGE	18
MAIN INTERNAL TRADE ROUTES—ENGLAND AND WALES—MIDDLE AGES	37
MAIN EUROPEAN TRADE ROUTES—MIDDLE AGES	41
THE WORLD—SHOWING THE GREAT DISCOVERIES OF THE SIX- TEENTH CENTURY, AND SOME OF THE NEW TRADE ROUTES	49
ENGLAND AND WALES—MAP SHOWING CHIEF ENCLOSURES OF THE SIXTEENTH CENTURY, AND PRINCIPAL CENTRES OF THE WOOLLEN INDUSTRY	59
THE WORLD—SHOWING ENGLISH COMMERCIAL EXPANSION DURING THE SIXTEENTH AND SEVENTEENTH CENTURIES	81
CHART SHOWING CHIEF REGULATIONS OF THE MERCANTILE SYSTEM	Facing page 98
ENGLAND AND WALES—MAP SHOWING ENCLOSURES BY STATUTE IN THE EIGHTEENTH CENTURY	117
ENGLAND AND WALES—MAP SHOWING DISTRIBUTION OF CHIEF INDUSTRIES IN THE EARLY EIGHTEENTH CENTURY	146
ENGLAND AND WALES—MAP SHOWING CHIEF NAVIGABLE RIVERS AND CANALS—EARLY NINETEENTH CENTURY	169
GRAPH SHOWING THE MOVEMENTS OF WHEAT PRICES, 1720-1920	215

PART I

TO 1485

INTRODUCTION

THE INVASIONS

THE ROMANS.—In the thousand years following the birth of Christ England was invaded and conquered no fewer than four times. The series began by the "discovery" of ancient Britain by Julius Cæsar, and its later conquest by the Roman legions. The Roman occupation lasted for about four centuries, during which the country came under the civilising influences of its conquerors. Tribal warfare was put down, and during the period of comparative peace, the internal economic development of the country was directed along lines dictated by Roman ideas. Agriculture was organised and Britain became one of the granaries of the Empire. Roman arts and crafts were introduced, the Britons, mainly as slaves, being taught these by their masters. Trade developed with the various parts of the Empire, particularly in hides for tanning, corn, wool, and tin. Much of these went as tribute to Rome.

The Roman system of law, which is considered even to-day as a fine monument to their genius as rulers, laid the foundations of internal settled government, teaching the country that peaceful settlement of disputes was infinitely preferable to settlement by fighting. Walled and fortified towns were built, mainly perhaps to shelter and protect the Roman legions, but when they were built they would naturally become centres of trade for the surrounding districts. The armed camp became the local market.

Finally a system of roads was constructed, chiefly, it is true, to allow of the rapid movement of soldiers about the country, but serving also as a means of communication for traders. These

2 THE ECONOMIC HISTORY OF ENGLAND

roads were so strongly built that they served as the skeleton of the English road system for centuries. In fact the art of road-making, known to the Romans, was not rediscovered until the early nineteenth century.

THE ANGLO-SAXONS.—The Roman Empire collapsed under the pressure of the barbarian tribes whom the Romans had long kept out by their fortified walls and garrisons. Europe was plunged into the barbarism of the Dark Ages. The protecting legions were withdrawn from Britain, and this was one of the first of the Roman provinces to fall. During the fifth and sixth centuries the country was invaded by the Teutonic tribes, the Angles, Saxons, and Jutes, against whom the resistance of the Britons, although courageous, was in vain. Of the native inhabitants, some were absorbed into the service of the invaders, as slaves, while others fled to the mountainous districts of the west and south-west.

The Anglo-Saxons came as settlers of the conquered lands and destroyers of the Roman civilisation. Towns, trade, Roman law, and settled government, all shared in the general ruin. Agriculture suffered least, but the tribes brought their own methods of agriculture with them, and probably substituted these for the Roman Villa System. The invaders received grants of land as their share of the spoils, and worked these as freemen to provide for their subsistence, although in practice, they became bound to the thegns and lords for protection.

It took centuries for England, by which name the country was now known, to recover the lost ground, but under rulers like Ine, Egbert, and Alfred the Great, law and order were again restored, and with internal peace, economic developments could again take place. Agriculture flourished, particularly in the fertile plains of the Midlands, the south and the east. Trade was restored, particularly with the Empire of Charles the Great. The Saxons learnt the use of towns, both as centres of trade and as a means of protection. Arts and crafts, and even learning, were fostered under Alfred.

THE DANES.—But by the eighth and ninth centuries a new danger threatened England from Denmark and Scandinavia.

Beginning with pirate raids on the coast, the country was finally invaded by the Danes or Vikings, the dwellers of the viks or fiords. These were hardy seamen and great fighters. But, besides being pirates, they were also the greatest traders of their time, and what they got by piracy in one region, they sold in places as far distant as Russia and the Mediterranean lands. Their boats found their way by means of the great Russian rivers to the Black Sea, while they ventured across the Atlantic to Iceland and Greenland. They even discovered the east coast of America, which they called Vineland the Fair. They were therefore skilled shipbuilders, and were able to undertake these long voyages because they developed the use of sails. The Viking ships travelled faster than any other ships known at the time, and it was useless to pursue them.

In the tenth century Scandinavia held the supreme position in the commerce of the world as it was then known.

These were the people who found the plains of England tempting to dwell in. Their own lands, on the whole, were bleak, barren and mountainous. Alfred the Great's compact with Guthrum, by which the Danes were allowed to settle in a part of England, is too well known to need repetition. Under Canute, a century later, England was ruled by a Danish King.

The Danish conquest brought with it Danish influences. England shared in the commercial activity of Scandinavia, and Danish ships carried English produce to the countries of Europe, bringing back their produce to England. Towns, as the natural centres of commerce, received a great stimulus under the Danes. Just as towns rebuilt on certain Roman camp sites may be recognised by "chester" or "caster," so may towns of Danish origin by the endings "by" or "thorpe." Above all there was infused into English life the viking spirit of enterprise and love of the sea, while shipbuilding benefited by the adoption of Danish methods.

THE NORMANS.—Scandinavia, however, lacked those natural resources which form the only really sound foundation for commerce. During the eleventh century, the centre of gravity of European trade moved to the Mediterranean lands, which, as the name suggests, were so conveniently placed for developing trade. They were also favoured by a more desirable climate, greater

4 THE ECONOMIC HISTORY OF ENGLAND

fertility of soil, and wider variety of products than Scandinavia. Cities like Genoa, Florence, Naples, and the greatest of all, Venice, became the great commercial powers of the late Middle Ages, trading in the luxury goods of the East and in the products of Europe. Scandinavia declined rapidly in commercial importance, and England would have shared in the decline but for the Norman Conquest.

The Normans, or Northmen, were really Danes who had migrated to, and settled in, Northern France, just as the Vikings had settled in England. Coming under the civilising influences of the south, they had developed along different lines. Their trading relations drew them towards the Mediterranean lands. They were great builders in stone, having developed their own style of architecture. They were expert in many crafts, particularly in the weaving of fine woollen cloth. Their methods of warfare were an advance on their contemporaries. The invasion, at first, naturally resulted in dislocation and unrest in England, but the country soon settled down under the firm and strong Norman rule. The Normans had a gift for organising, and this is essential for the establishment of efficient government.

THE FEUDAL SYSTEM.—Under William I the barons were brought under the control of the Crown by the Feudal System. The king established himself as the landowner-in-chief of the country, all the barons holding their estates directly from him, subject to certain obligations. These consisted of various feudal dues, but the chief were payment of taxes in money or kind, and the obligation to perform military service when required. The barons let out their land to sub-tenants and cultivators, in return for obligations including military services and labour on the private domain lands.

DOMESDAY BOOK.—William also ordered a great survey to be made of his kingdom. This took years to perform, and the results were entered in the famous Domesday Book. Details were collected concerning towns and villages, showing the extent of the estates, the number of cattle and sheep, the number of cultivators and their holdings, and even the implements used. Although parts of the country were only very imperfectly surveyed, this

book forms a very valuable record. It gives a good picture of English life in the eleventh century, forming, in fact, our chief source of evidence for the period.

Among other results of the Norman conquest must be mentioned the following. England's island position tended to isolate her from European life, but the fact that William was Duke of Normandy, as well as King of England, turned England towards European life. This was not altogether a benefit, and during the Middle Ages, the attempt of English kings to retain their continental influence involved the country in many wars. But the commercial life of the country benefited considerably, and, as will be described later, European and Mediterranean merchants carried on much trade with this country. England, in fact, hardly felt the loss of the northern trade. Town life was also stimulated, and many Norman castles, built for military reasons, became the nuclei of towns. Many of the Norman soldiers were craftsmen, and when the fighting was over they settled down again to their crafts in our towns and villages. Weaving, in particular, developed, as England possessed abundant quantities of wool that was renowned for its quality throughout Europe.

The Norman invasion ended a period in our history which can well be termed the Age of Conquests, and it began a period lasting for about four centuries, which may be termed the Middle Ages. During this period England's economic life, her agriculture, industry, and trade, developed slowly to form the foundation of her later economic greatness.

CHAPTER I

VILLAGE LIFE IN THE MIDDLE AGES

THE MANORIAL SYSTEM.—At the time of the Norman invasion, England was composed mainly of villages. The population of the whole country was small compared with the present day, and has been estimated at between two and three millions, of whom about ninety per cent. lived in the villages. Village life, and therefore agricultural work, predominated in England until the beginning of the last century, from which time industry and commerce developed so rapidly, that now about four-fifths of the people are town dwellers, following industrial or commercial occupations.

The most thickly populated parts of England during the Middle Ages were those which were the most fertile, namely, eastern and southern England. The north and west were very sparsely populated, as little corn was grown in these regions, except in the river valleys and on the coastal plains. Here the people lived in scattered homesteads, devoting their time principally to sheep and cattle rearing.

Village life was organised under the manorial system. This system existed in a crude form in Saxon England, but under the Norman kings, the manorial village became the prevailing type, particularly in the corn-growing districts. The village was the estate of a lord occupied by dependent cultivators. The land itself was of no value without labour to cultivate it, and it was thus in the interests of the lord to keep as many cultivators in the village as possible. [In fact, a lord's wealth was often estimated, not by the number of acres he possessed, but by the number of peasants on his estate.] While the lord held the whole manor from his feudal overlord, (the latter holding from the king), he only farmed directly a part of the land, usually about half, for the needs of himself and his household. This was the lord's

demesne, of which the modern "home" farm is a survival. The remainder of the land was distributed among the villagers, in proportions varying with their status.

THE VILLAGE.—The village consisted of the cultivators' cottages clustered round the manor house, which was the abode of the lord himself, or of an official directly representing him. It was a substantial stone building, with one great hall, where the lord, his household, and his retinue lived, slept, and ate, the dining-tables being usually planks resting on trestles, so that they could be taken down when the floor was needed for sleeping. There were also private rooms to which the lord and his family might retire. The house stood in its own grounds, which formed part of the lord's demesne. Another important building was the village or parish church, also of stone, with an earthen floor and rough benches for seats. The cottages of the villagers were very small and roughly built, usually of wood, or perhaps even of rushes and turf, consisting of one big room, or sometimes of two smaller ones.

THE VILLAGERS.—There were three distinct classes in the village, differing in their legal and economic status. The most privileged class were the freemen, those who held their land in free tenure. At the time of the Domesday Survey, they formed about one-eighth of the population. Though they were distributed over the whole country, they were most numerous in Lincolnshire, Norfolk, and Suffolk, where they formed between a third and a half of the population.

The freeman, as the name suggests, was legally and personally free from the various servile incidents which marked villein tenure. His relations with the lord were in the nature of an individual contract, in consequence of which the terms of the contracts varied considerably. But, generally speaking, the freemen only owed relatively slight services to the lord, such as a few days' boon work, in recognition of his authority over them. In no case did they owe week work which was a test of villein status. The freemen, however, placed themselves under the protection of a lord, in return for which they paid him a money rent. They could transfer their land at will to the protection of

8 THE ECONOMIC HISTORY OF ENGLAND

another lord, if they were subjected to undue exactions. They could claim the protection of the king's courts to defend their proprietary rights to the land against the encroachments of a lord, and they possessed complete liberty to sell or dispose of their land as they thought fit. In the later Middle Ages, free tenures were increased by two methods, namely, the carving out of holdings from the demesne and waste lands (these holdings being let at a money rent), and the commutation of villein services to money payments. It is interesting to note, therefore, that money rents were regarded as payments, not so much for the use of property, but for the protection of the lord, who himself had to render feudal obligations to the crown in return for holding his manor.

The most numerous and important class in the manorial village were the villeins, on whom the whole organisation of the manor rested. The name comes from "vill," just as "burgess" comes from "borough." In the legal and economic senses, the villeins were inferior in status to the freemen, although they were by no means slaves. They were bound to the soil and could not leave the village without the lord's consent. They held their land at the will of the lord, who could legally take away their holdings at any time. The villeins could claim no legal protection against the lord, except in case of personal injury. (The law afforded protection to all, except slaves, for life and limb.) In actual practice however, the lord was usually as anxious to keep his villeins as the latter were to keep their holdings, and arbitrary evictions were the exception rather than the rule. The villeins also had the protection of the manorial court, over which the lord presided, and could proceed against any neighbouring freeman or villein for encroachment on their rights. The decisions of the manorial court hardened into custom, which came to be regarded as a fairly effective safeguard against unfair treatment, and the protector of village rights against even the arbitrary will of the lord. The villeins commonly appealed to the custom of the manor in cases of dispute, and they were by no means loath to take active measures to defend that custom. Although legally the lord could claim complete freedom to dispose of a holding on the death of a villein, by custom, the villein's eldest son almost invariably succeeded to his father's holding, on payment of a .

fine, called "heriot," usually the best animal he possessed. Interference with this custom was likely to arouse bitter feelings, and active measures of defence.

The third class were the cottagers, alternatively known as cottars or bordars, who formed, at the time of Domesday, almost a third of the population. They were recruited from the younger sons of villeins and from the slaves. Like villeins, they were tenants in villeinage of the manor, and were of a similar legal status. But materially, they were much inferior to the villeins, holding less land than the latter. Compared with the cottagers the villeins were substantial farmers. As they held less land, however, the services required from them were fewer, and they formed the reserve supply of labour on the manor. They could supplement their resources by working in their spare time as wage earners for the lord, or a prosperous villein or freeman. They were therefore comparable to agricultural labourers, and their existence denotes the emergence of a wage-earning class even as early as the time of the Domesday Survey.

Domesday Book also records the existence, mainly in the west, of a small class of slaves, probably descendants of conquered races. Their conditions and their history are uncertain and obscure, but they were serfs in the full sense of that term. They were bound completely to the lord both in person and in goods. They were the property of their masters, and were probably used for menial tasks in the household. But even in 1086 their numbers were decreasing, and by the end of the twelfth century, they had almost completely disappeared. They were probably absorbed into the class of cottagers by being granted rights of cultivating small tracts of land in return for the usual agricultural services.

THE LAND.—Round the village lay the land in great open stretches, not, as to-day, in compact fields enclosed by neat hedges. Fences were used in the Middle Ages merely as temporary guards, to prevent animals wandering over growing crops. When the harvests were over, the fences were removed, and the villagers' stock grazed on the stubble. Only a part of the land was cultivated, consisting usually of three, but sometimes of two, great open fields. These fields were divided up into strips, a furrow-long (furlong) in length, and four rods wide. Measure-

ments were, of course, very rough, as there were no accurate and uniform standards in the country. The area of each strip was roughly an acre, as much land as could be normally ploughed in one day. The strips were separated by paths of unploughed land, called balks. The usual course of cultivation was the "three field system," one field being sown with wheat or rye, another with oats or barley, and the third lying fallow to allow the land to recuperate. Thus each field "rested" one year in every three.

Another portion of land which was fenced in temporarily was the meadow, which provided the hay for the village. The meadow was divided up by lot among the villagers every year, and the hay which they obtained was the only winter fodder available for their stock. It was thus extremely difficult to maintain stock during the winter months. In fact, only a minimum number could be kept, most of the animals being killed in the autumn, and salted as winter meat. There was little fresh meat available for the ordinary people in the winter.

The villagers also required pasture for their animals. This was provided by the great commons, which were always open. All the villagers had the right of turning out their beasts on these commons, the number varying usually with the size of the holding. There were frequent complaints that the commons were overcrowded with beasts; that the richer villagers put more than their fair share on the commons, and that disease spread very quickly among the animals. But this method of pasturing the stock survived in many parts of the country until the last century.

There were also great wastes attached to the village, land which, as the name suggests, was uncultivated and often unfit for producing anything but very coarse pasture, or brushwood fuel and peat for the villagers. Fuel and timber were obtained mainly from the woods, the villagers possessing the right to supply themselves from this source.

THE HOLDINGS AND TENURES.—The cultivated land was naturally the most valuable in the village. Usually the lord retained half the strips in his demesne, and the remainder were held by the villagers on various terms. The freemen owned

strips varying in number from a few to over a hundred in some cases. Each villein usually held thirty strips, ten in each field, scattered about. This typical holding was called a yardland or virgate. The cottagers held from three to five strips scattered over the three great open fields. Both villeins and cottagers had small vegetable gardens, or messuages, attached to their cottages as well. The strips were scattered so that the good and poor land might be shared as evenly as possible among the villagers, and also in order that the villagers could have their strips ploughed in turn. The plough was the common property of the village, and it would have been unfair to allow all the strips of one cultivator to be ploughed before those of the others.

In return for the virgate holdings, and the pasture, hay, waste and fuel rights which the villeins claimed, the lord demanded certain obligations. To-day farmers pay a money rent for their land, and as long as they pay the rent, the landlord has no further claim on them. But money played only a very minor part in the manorial system, which was based on a natural economy, by which payments were effected in kind. The villeins were expected to work on the lord's strips for three days every week (week work), and during busy seasons certain extra days (boon work). At Christmas and Easter they took gifts in kind, like poultry, butter, and eggs to the manor house, while they were also expected to carry things to and from the village for the lord. If the lord required new millstones or salt, these were carried by the villeins from the market to the village, as part of their obligations. The cottagers worked one day a week on the demesne and a few extra boon-days at harvest. In the remainder of their time they could work at a daily wage for the lord or any villein or freeman who required their services.

THE MANORIAL COURT.—The whole system was controlled by the manorial court, which met frequently, the villagers being required to pay suit at this court. It was presided over by the lord in person, or by his chief official, the steward. The court dealt with all disputes among the villagers; it arranged for the succession of villeins' sons; it fixed the fines and other dues required from the villagers; it arranged the order of work on the manor; in fact, the efficient working of the whole system de-

pended on it. The fines and fees of the court formed quite a considerable source of income for the lord of the manor.

THE MANORIAL OFFICIALS.—The chief of the manorial officials was the seneschal or steward. Lords usually held more than one manor, and in each a steward was appointed to represent them. The working manager of the village was the bailiff, who was expected to serve the interests of the master faithfully, and see to it that all the dues to which the lord was entitled were regularly discharged. The interests of the villagers were represented by the reeve, who was expected to act as the go-between for lord and villagers. This was such difficult and unenviable work, that it was hard to get people to serve as reeve. There was also a constable chosen from among the villagers, and he was expected to raise the "hue and cry" after any thief, the villagers being required to obey his call to pursue the wrong-doer. The village could not be complete without cowherds, shepherds, and swineherds, besides craftsmen like the blacksmith, the miller and the thatcher. These were paid in kind for services they rendered to the villagers.

The manorial village was almost entirely self-supporting, requiring but little from outside sources. The villagers grew their corn and vegetables; they wove a rough coarse cloth from wool obtained from their own stock of sheep; the cow provided milk, cheese and butter; in place of sugar they collected honey from the bee-hives; they gathered their own fuel and built their own cottages. They could purchase a few luxuries from pedlars in exchange for any surplus produce they might have. The pedlar was also the news-carrier, and his entry into a village was always welcomed, more perhaps for his gossip than his wares. The manor, however, required from outside, salt, a necessary food preservative, tar, which was a remedy used for skin disease among the animals, iron, which was used for parts of the agricultural implements, and millstones for grinding the corn. The mill belonged to the lord, and the villagers were compelled to take their corn to his mill to be ground, a part being kept back as payment. In order to be able to purchase these requirements, the village had to sell its surplus corn and wool, which was in great demand among foreign merchants. The towns eagerly

bought any of these products on market days from the villagers.

ADVANTAGES AND DEFECTS.—The manorial system was admirably suited to the Middle Ages, when the population was small, and land relatively plentiful. The villagers were at least secure of a simple living, and all shared alike in plenty, if harvests were good, and scarcity, if they were poor. If villeins were tied to the village, they had little desire to leave what was to them a certain livelihood. They worked hard, but they enjoyed many holidays during the year. They were also accustomed to co-operate and help one another. The "Open Field System" had its disadvantages, but at least, it laid down a certain minimum standard of farming, to which all had to conform. Life in the Middle Ages was also not very secure, and the fact that the cottages were grouped together gave much greater protection than if they had been scattered.

But the system had its obvious disadvantages which finally accounted for its decay. The defects became more apparent when the growth of population required improved methods of farming and less waste of land. The villagers wasted much time walking from strip to strip, while the dividing balks meant, in the aggregate, a considerable waste of land. The intermingling of the strips gave rise to frequent disputes. One man might try to plough into his strip his neighbour's balk. Also, one strip carelessly cultivated and not properly weeded would make the work on neighbouring strips all the harder. But the chief defect was that the system allowed of no enterprise or initiative on the part of individual cultivators. Everyone had to conform to the customary rules and standards, and adhere to the old methods and crops. Experiments with new ideas, new methods, or new crops, could only take place with the consent of all the cultivators, and such innovations were practically always treated with contempt or suspicion by the majority. The system was so rigid that anything new might upset the whole thing. Improvements could not take place until individual cultivators could try out their own ideas without interfering with the rights of the other cultivators.

. **THE BEGINNING OF DECAY.**—It is not surprising, therefore,

that, although it took centuries for the whole system to die out, it began to decay very early, even in the thirteenth century. One of the first changes that appeared was the cultivation and enclosure of the more fertile portions of the waste lands. This practice developed with the growth of population in some of the villages in southern and eastern England. When strips could not be found for the extra people in the open fields, they applied to the lord for permission to cultivate a portion of the waste. This was usually given readily, because it meant increasing the value of the land. The lord charged a money rent for these portions, so his income was increased. The cultivators did not lay out this land in acre strips, but took a compact piece of perhaps five to ten acres, and cultivated it as a whole, each cultivator farming his own plot. In order to prevent the animals from straying on to these crops, permanent fences were put round them, and thus they were called enclosures. In many cases, the other villagers resented these enclosures, as they might mean less pasture for their stock. In 1235, however, the Statute of Merton was passed, which gave the lords the right to allow these enclosures, on condition that sufficient pasture was left to the villagers, who could complain to the travelling justices, if they felt they were unfairly treated. Where these enclosures occurred, there was introduced into the village system an alternative method of farming, and when villeins began to acquire plots on the waste, in addition to their virgates, an opportunity was given to them to prosper by selling surplus produce to the neighbouring towns.

Another important change, which appeared about the same time, was that of commutation. This was a compact between the lord and the villeins to convert the services due for the holdings to a money rent, based on the value of the services. These labour services were irksome to the villeins, while the lords frequently complained that the work was badly done. This was probably true, as forced work is usually unsatisfactorily performed. The lords found that the demesne was better cultivated by hired labourers, but they needed a money income to employ these. Also they were being required to pay their own taxes in money, which increased their need for a money income. The week work was commuted at first, as the lords wished to be certain of a

plentiful supply of labour at the busy seasons, but the boon work was included soon afterwards. Villeins who commuted were freed from the most unpleasant part of their villeinage, but fear that they would not be able to provide the money rent made many of them unwilling to agree to commutation.

These changes, like all new ideas, spread very slowly, especially when we remember that there were so many obstacles to communication in the Middle Ages. People were also unaccustomed to the use of money, which in any case was scarce, while only villages situated near fairly big towns had the opportunity of selling their surplus produce to get money.

THE BLACK DEATH.—In the middle of the fourteenth century there occurred an event which hastened on these changes. This was that devastating plague known as the Black Death. Plagues were frequent occurrences in England and in every other country until the last century. Since then, the advances made in medical science, in sanitation, public health and water supplies, have produced much healthier conditions, and plagues are now fortunately rare. This particular plague was the worst in the country's history, and it is probable that between a third and a half of the entire population died from it between 1349 and 1351. All classes were affected by it, but the labouring classes in the towns and villages were the greatest sufferers. In the villages, the conditions became appalling. Crops were left rotting in the fields for want of labour; land went out of cultivation; food scarcity prevailed and prices therefore rose. While the lords at first benefited from increased fines of succession, they soon found land on their hands for which they could get no cultivators. The scarcity of labour produced a demand for higher wages from those who had survived, but only the villeins who had commuted, and the cottagers, could benefit from increased wages. It was natural, therefore, that the villeins who had not commuted pressed for commutation of their services. This led to bitter disputes between lords and villagers, as the former now preferred to keep the villeins to their services, which were of more value to them than the money payments. They even tried to make the villeins work harder than before. The government attempted to prevent wages from rising by passing the Statute of Labourers in 1351,

which made it an offence for labourers to ask for, and lords to pay, higher wages than those which prevailed before the plague. This measure only increased the discontent of the villagers, who suspected that the government was in league with the lords against them. This cause, coupled with the rising taxation to pay for the French Wars, and the preaching of the equality of man, by men like John Wycliffe, led to the Peasants' Revolt in 1381.

Although this revolt was unsuccessful, the peasants were in a position to improve themselves owing to the scarcity of labour which existed. Villeins who failed to secure commutation fled from the village and easily found work elsewhere on better terms. Thus, in order to keep the cultivators that remained, lords were frequently compelled to grant them commutation. Land could also be rented at better terms than before the plague, and villagers could increase their holdings fairly easily in the open fields, or take in plots from the waste for enclosure.

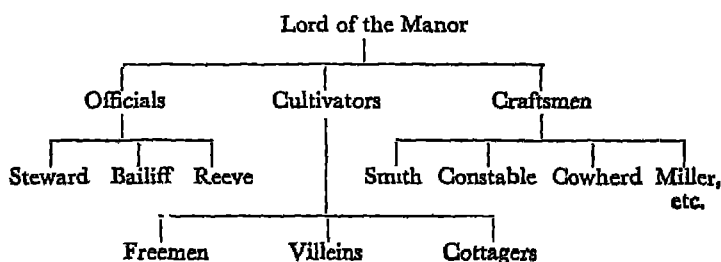
These changes went on more rapidly in the following century. By the beginning of the sixteenth century villeinage had almost completely disappeared from England, except in some parts of the north. A free peasantry was thus created, and for this reason the fifteenth century is regarded as the "Golden Age" of the English peasants. The scarcity of labour also produced other changes in village life. In order to economise labour, strips were, in some districts, collected together, or consolidated into compact holdings and enclosed. This occurred on the virgate holdings and on the lord's demesne. Some lords also gave up direct farming and went to live in the towns, leasing out the demesne for a money rent. There was thus created in the village a new class of leasehold cultivators. Many of these were prosperous wool merchants, who converted the land into pastures for sheep-rearing, which required much less labour, while wool was becoming more profitable to produce, owing to the rising cloth industry in the country.

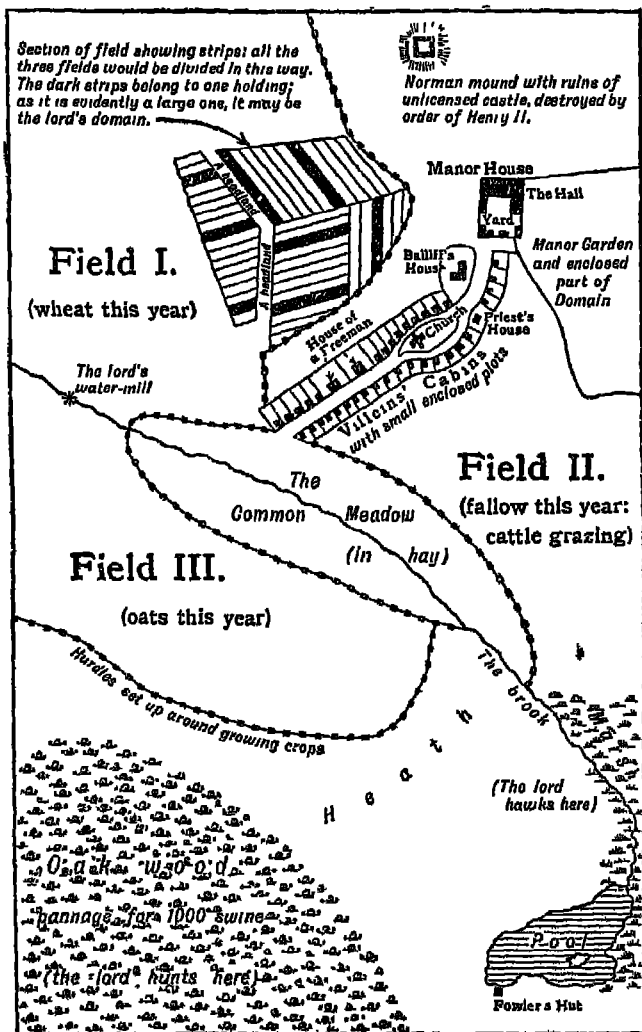
Thus by the end of the Middle Ages, the manorial system was in process of decay. Villeinage had all but disappeared. The open field system, with its farming in common, had a rival in the enclosed method of individual farming, although most of the country was still unenclosed. The use of money had become quite

common, replacing natural economy. The motive of farming to provide for the subsistence of the village was being replaced by that of farming for the market, to make profit out of the land by the sale of its produce. The decay continued in subsequent centuries.

DIAGRAM OF THE MANORIAL SYSTEM

Classification of the People





MAP OF AN IMAGINARY VILLAGE UNDER THE MANORIAL SYSTEM
(Reproduced from Trevelyan's "History of England")

CHAPTER II

TOWN LIFE IN THE MIDDLE AGES

CHARACTER OF MEDIEVAL TOWNS.—Just as agriculture is associated with village life, the development of industry and trade belongs to the town. There existed about a hundred townships in England in 1066, but the great majority of these were merely large-sized villages, with a population varying from a few hundreds to two or three thousand. Life in these "towns" closely resembled that of the typical manorial village, except that there was a little more trading done by the inhabitants. London, then as now, was by far the biggest, and it was followed by Winchester, Bristol, Norwich, York and Lincoln, with populations ranging from seven to eight thousand. In all the towns agriculture occupied a very important part in the life of the inhabitants, while in many towns, like Colchester at the end of the thirteenth century, agriculture was still the only occupation. The inhabitants of London even were compelled to assist in the harvest, while as late as the sixteenth century, the weavers of Norwich were forbidden to exercise their craft during harvest, in order to assist in that work. The boundaries of the town extended far beyond its walls, including, outside the walls, the great open fields, common pastures, wastes and meadows, which belonged to the townsfolk. Every morning the beasts were driven out to the pastures, and the people set out with their agricultural implements to till the soil. Towns were often compelled to pass regulations to prevent the cows straying about the streets. Agricultural rights were as important, and as jealously guarded in the towns, as in any agricultural village. The residents of London actively resented the enclosure of their commons, as it deprived them of their pasture rights. Most towns therefore provided for their own subsistence, and only purchased food from surrounding villages to make up any deficiency in their own supplies.

ORIGIN OF TOWNS.—The origin of towns is two-fold—defence, and convenience for trade. Even the Anglo-Saxons, who hated towns, discovered their value for protection during invasions, and restored many of the old Roman towns, to seek shelter behind their walls. Monasteries and castles attracted people to their shelter in the Middle Ages, and towns like Durham, St. Albans and Bury St. Edmunds developed for this reason. Most of the counties contained at least one town, to which people could retreat in times of invasion. Those who had estates in the county were required to contribute towards the upkeep of walls and dwellings in such towns. This is probably the origin of many of the present county towns, like Hereford. The possession of natural advantages for trade was responsible for the growth of many towns. Oxford grew up where the river could easily be forded; Cambridge and Aylesbury were at the meeting-places of important roads; at Bristol the River Avon could fairly easily be spanned by a bridge; while to be situated near a good natural harbour, like Southampton, at the mouth of a river, like Exeter, or at the head of a great estuary, like Gloucester, would be sufficient reason to attract traders.

THE CHARTER.—The progress of towns was impeded by various feudal and manorial restrictions which bound them to their feudal overlord. The inhabitants were compelled to perform the usual services on the lord's demesne as in the manorial villages. They had to pay suit at the lord's courts, which was a test of the authority of the lord over them. They were required to take their corn and malt to the lord's mill, and their bread to the lord's oven. This formed an appreciable source of income for the lord, and many were the complaints of unfair deductions by the millers, and of the inconvenience which the obligation entailed. Villages were frequently caught grinding their own corn with home-made implements, an offence which meant a fine at the manorial court, and confiscation of the milling apparatus. These obligations survived in many instances long after feudalism had disappeared, and the manorial system had broken up. For instance, the inhabitants of Manchester were still taking their corn and malt to the lord's mill, and bread to his oven, as late as the middle of the eighteenth century, while they

did not entirely shake off the manorial yoke until a hundred years later.

In addition to manorial obligations, all trade conducted in the mediæval towns was subject to tolls and customs, payable in part to the lord and in part to the crown. The sheriff, to whom the king often sold the right of collecting the royal dues from the towns for an annual sum or farm, was particularly unpopular. His visits were usually for the purpose of collecting his dues, and as often as not his demands exceeded the amounts for which the townsfolk were liable.

The towns were naturally anxious to get rid of these obstacles to their development, particularly when trade and industry began to occupy an important part of their activities. Freedom from manorial obligations could be secured by commutation, for which the townspeople were more favourably placed than the peasants, owing to their greater familiarity with the use of money. The pre-Norman boroughs (both Saxon and Danish) had been allowed, at least one mint, while the most important, like London and Winchester, had more than one, the former having eight, and the latter six. But the supreme aim of the towns was to purchase a charter, which freed them from feudal dues, and converted them into incorporated boroughs, with a large measure of control over their internal affairs. The charter meant freedom, and its privileges, in a feudal age, made it the most highly prized possession of the borough. Henry I was very liberal in the granting of charters, while King John's financial needs induced him to sell so many that he earned the title of "The Charter-monger."

The most important privilege contained in the charter was the right to discharge tolls and taxes by a fixed annual payment known as the *Firma Burgi* (the rent of the town). This right was granted either for a term of years, after which the towns hoped to secure its renewal, or in "fee farm," that is, for all time. This right relieved the towns from the visits of the sheriff. Towns also sought to manage their own affairs without outside interference. Hence the privilege of holding a borough court, presided over by their own mayor and aldermen, and the right to elect these officers, were also embodied in the charter. In order to attract residents, and to protect the burgesses from any claims by the

lord of the manor, most charters also granted freedom to all villeins who resided in the towns for a year and a day. Towns were known to repulse all efforts by the lord of the manor to recapture villeins who had absconded from their villages, especially after the Black Death. Finally, charters usually contained an important clause granting the right to possess a gild merchant, a body which, as will be described later, controlled the trading privileges of the town.

These charters could not be obtained without considerable bargaining and striving. The towns which were in the most fortunate position were those on the estates of the crown, or towns on the royal demesne. The king's interests were so wide, and his estates so big, that he had not the time to worry about the affairs of particular towns, while his need for money was usually so great that it made him all the more willing to agree to any bargain which promised to relieve him of trouble and expense, and at the same time increase his revenue. For these reasons, towns like York, Winchester, Nottingham and Gloucester, were able to get charters early in their struggle for freedom.

Towns like Leicester, that were on the estate of some baron, were not quite so fortunate. Barons were more interested in the local affairs of their manors, and towns were to them an appreciable source of money income. Baronial towns had therefore to watch for an opportunity, such as a lord's sudden need for money, to bargain for their charter. For example, lords who went on the Crusades needed large sums.

But those towns, like Bury St. Edmunds, which were situated on the estates of the Church, were in the least fortunate position in this respect. The Church was anxious to preserve its influence and control over the towns, and it was seldom in urgent need of money, like the king or the barons. Abbots only represented the Church, and with the exception of some enlightened abbots, they were reluctant to alienate Church property and rights. Even in some corporate boroughs, like Winchester, the Church possessed property over which the mayor could claim no jurisdiction at all. These towns were still found struggling for their freedom as late as the fifteenth and sixteenth centuries, for many were not able to secure complete independence from Church control over their secular affairs until the dissolution of the monasteries in 1536.

THE GILD MERCHANT.—Mediæval towns were centres of trade, rather than industry. The trading privileges of a borough, which included the right to buy and sell, to erect stalls and to share in any trading agreements with other towns, besides freedom from tolls, were vested in an important association called the gild merchant. The earliest mention of such an association occurs at the end of the eleventh century, in the charter of Burford. A century later, there was scarcely any important borough without its gild, London, however, being an exception. Membership of the gild was open to all people in the town who were engaged in any craft, on payment of entrance fees and annual subscriptions. Such craftsmen sold their own products, and they were anxious to keep all the trade of the town in their hands. Thus the chief privilege that gild membership bestowed was the right to buy and sell, wholesale or retail, free of toll in the town. Strangers, who included all people not resident in the town, could sell wholesale to members only, on payment of a toll fixed by the gild. The gild thus exercised a monopoly of the town trade, although an exception was made in the case of food. Members of the gild were entitled to various other privileges, such as benefits from the common funds during sickness and unemployment, assistance to collect debts, aid to secure release from prison, especially if they were imprisoned in another town, protection for their goods, and provision for widows and orphans in case of death. They could also claim to share in bargains made by a fellow-member. Such bargains, as the purchase of wares from a merchant passing through the town, had to be struck in public, and within a stipulated time the gild brethren could claim to participate in the transaction on the same terms. The object of this was to preserve some degree of equality among the members, but it came to be regarded more as a burden than a privilege, a sign that individual interests began to conflict with those of the gild as a body.

In return for these privileges, members were bound by certain obligations. In addition to entrance fees and annual contributions to the gild funds, implicit obedience to gild regulations was required from them. They were severely punished for fraud, to detect which the gild had its officials whose duty it was to inspect the work done by members, and to supervise their dealings. They were also required to live peaceably, not to create disturbances

in the town, and not to go to law against fellow-members. The gild organisation was under the control of a master and a council elected annually by the body of members. Such gild officials were usually prominent citizens in the town.

CRAFT GILDS.—The towns gradually grew in importance and in population, especially after they had secured their freedom by charter. Trade with the surrounding villages became quite normal, and treaties were often concluded between towns by which mutual trading advantages were secured. These inter-municipal treaties were similar to commercial treaties concluded between nations at the present time. This growth of trade, involving an increased demand for the products of the towns, provided an opportunity for individuals to specialise in different crafts, since they were now reasonably certain of being able to exchange their wares for goods which they needed themselves. Those who specialised in one craft, like saddlery, shoemaking, baking or cloth-making, were drawn together by the interests of the craft. They settled in particular parts of the town, so that certain areas of the towns became associated with the particular crafts found there. Names like Corn Market, Tanner Row, Fish Street, and Bread Street, are survivals from periods when such districts were actually the centres of crafts represented by the name. It was natural for the craftsmen to attend meetings of their own craft, rather than those of the gild merchant, and that the latter should begin to break up into separate associations.

At the same time membership of the gild merchant became more difficult to obtain. Increased trade brought opportunities for enterprising individuals to acquire wealth, and the control of the gild tended to pass into the hands of such wealthy burgesses. When the towns were struggling for their privileges, it was comparatively easy to become a member of the gild, since greater numbers gave added strength. But when the privileges had been won, members became unwilling to share them with others. Thus regulations were passed which made it much more difficult and expensive to obtain membership. Entrance fees were raised, and sometimes a minimum property qualification was made a condition of membership. This policy of exclusion kept out a growing number of craftsmen, who joined the associations formed by

their fellow-craftsmen who were breaking away from the gild merchant.

These new associations were called craft gilds. As the name suggests, they were primarily interested in crafts, although, since craftsmen still sold their own products, they were also interested in trading. They took the place of the gild merchant in the control of the industry and trade of the towns, and by the fourteenth century most towns had these separate gilds representing the crafts. A craft gild was very similar to the gild merchant in its organisation, being managed by an annually elected master, wardens and a council. Entrance fees and contributions were required from members, but a more important condition of membership was, recognised training in the craft. A period of apprenticeship, normally seven years, but varying between four and ten years for some crafts, had first to be served. The apprentice was bound to a fully qualified master, the latter undertaking to train him in the craft and to teach him the duties of a citizen, the apprentice promising implicit obedience. He lived with the master, who became responsible for his board, lodging, clothing and a little pocket-money. At the end of his term the apprentice became a journeyman or improver. He could still work for his old master, or for anyone else requiring his services, and he was paid a daily wage, usually fixed by the gild. This stage lasted for about three years, but sometimes longer. During this time the journeyman was expected to improve his knowledge of the craft and to save money to set up on his own. Sometimes he was required to produce a test piece of work for examination by the gild officials. If the masterpiece were approved, the journeyman could apply for full membership of the craft, as a master craftsman. He could then open his own shop, take in apprentices and employ journeymen.

Membership of a craft gild carried with it important privileges. The right of exercising the craft in the town was confined to members. Assistance was rendered by the gild during unemployment or sickness, and there were benefits for widows and orphans. The gild fixed the prices of the goods, and guaranteed a just price for just work, without the danger of undercutting by fellow-craftsmen. This form of competition was strictly forbidden by the gild, and members could not even advertise or entice away

the customers of a fellow-craftsman. In return for these privileges the members had their obligations, in addition to entrance fees and contributions. They were expected to maintain a high standard of workmanship. Bad work could be confiscated by specially appointed searchers, and expulsion from the craft followed persistent bad work or fraud. Night work was usually prohibited in the interests of good workmanship, since tallow candles provided too poor a light for effective work. All complaints were dealt with at the gild court. Members were expected to conduct themselves like good citizens, and not to go to law against a fellow-member without the consent of the gild court. The gilds also provided for the town's amusement by performing "Mystery" plays every year, and by taking part in the annual pageants. The mercers, drapers and haberdashers would represent the creation of the world, the shipwrights, the building of Noah's ark, the fishers and mariners, the Flood, and the smiths, the episode of David and Goliath. As there was no theatre, the plays were performed in the open air on movable stages. As one "scene" or "act" was finished, the stage moved on to perform in another part of the town, being followed by the other gilds with their "scenes" until the cycle was complete. Sometimes it took days to complete it. These plays involved considerable expense on the gilds, and members frequently complained that the burdens were too heavy. During the fifteenth century they gradually died out, in spite of repeated attempts by many municipal authorities to "recall their gilds to their duty to provide for the recreation of the town." An interesting survival of the gild plays is the annual Lord Mayor's Show, in which the livery companies take part. These plays, incidentally, had an important influence on the development of the drama in this country. Their decay coincided with the break-up of the craft gild system itself.

THE JOURNEYMEN GILDS.—In the early history of the craft gilds apprentices could confidently look forward to becoming independent masters in due course. Little capital was required, since the craftsman's chief capital was his skill. But the continual progress of trade brought with it increasing opportunities for enterprising master craftsmen to become wealthy, and these formed an inner circle within the craft. Control tended to pass

into their hands, and regulations were imposed which made it more difficult for journeymen to acquire full membership. Entrance fees were raised, sometimes to a prohibitive level. The standard of the masterpiece was raised in some cases. Mastership often became hereditary, passing from father to son irrespective of training in the craft. Complaints were frequently made by newly-elected masters that they were required to provide sumptuous feasts for the craft, and to buy a costly livery, thus seriously diminishing their capital. At the same time, the extension of trade beyond the boundaries of the town, made increased capital necessary to set up in business. The result was that a growing number of journeymen found the door to mastership closed to them, and they were compelled to settle down as permanent wage-earners, dependent for their livelihood on the greater masters. Disputes about wages became common. To secure better conditions, and to prevent themselves falling completely into the hands of the masters, the journeymen formed their own guilds, which became common by the beginning of the fifteenth century. These guilds of journeymen organised strikes against the masters, especially during the scarcity of labour which followed the Black Death. In some cases, the disputes led to open fighting, as in Chester in 1358, when the master weavers attacked their journeymen with "pole-axes, baslards and iron-pointed poles." Journeyman guilds did not, however, last very long, and by the sixteenth century most of them had disappeared. From the beginning, they did not possess the means which the craft guilds had, and the journeymen were too poor to subscribe much. They also lacked capable leaders, since the more enterprising and able journeymen could still become masters by their extra exertions, and then they deserted the journeymen guilds. The journeymen were also dependent on the masters for their work and wages, and in most cases, they entered into agreements with their employers, by which they were admitted into membership of the master guilds, or Livery Companies as they were now called, on a lower status, as the "yeomanry of the gild." The masters undertook to employ only their own yeomanry.

THE LIVERY COMPANIES.—The wealthy masters of the craft guilds found that it was more profitable to specialise in trade than

to continue as mere master craftsmen. They became merchants in the modern sense, and left the manufacturing to be done by the journeymen. These merchants associated to form the great Livery Companies, of which there were twelve in London during the sixteenth century. They were very wealthy associations, able to purchase their own charters from the crown, granting them a monopoly of buying and selling particular commodities in the towns. Among the greatest of these companies were the goldsmiths, the mercers, the drapers, the fishmongers, and the vintners. They adopted an expensive livery, a uniform which they wore on all special occasions. To be "of the livery" became a mark of great distinction and honour, and journeymen had to be content to wear a much less expensive livery, to denote their lower status in the gild. These great companies still exist, and some of them, like the Goldsmiths' Company, are very wealthy. They still have their halls where they hold their meetings, but they no longer have any power or control over the trade of the towns.

THE WOOLLEN INDUSTRY.—By far the most important industry during the Middle Ages was woollen cloth-making. The industry was scattered over the whole country, not concentrated in one or two districts as it is to-day, although, certain towns, like Norwich, London, Ipswich, Bristol and Winchester, were famed for the quality of their cloth. The raw material existed in abundance and its quality attracted merchants to England from all parts of Europe. The best cloth was made on the Continent, particularly in Flanders. The English cloth industry, in fact, declined rapidly at the beginning of the fourteenth century in face of keen competition from Flemish cloth. Complaints were frequent that craft guilds of spinners, weavers, dyers, and fullers were "sorely decayed," in consequence of which towns were often unable to pay their *Firma Burgi*. Steps were taken by the government of Edward II to protect the home industry, by discouraging the export of wool, and taxing the import of cloth. But what the English industry really lacked was the necessary skill and capital to enable it to compete successfully with Flanders. Edward III, in his tours of France during the Hundred Years' War, was so much impressed with the prosperity of the weavers of

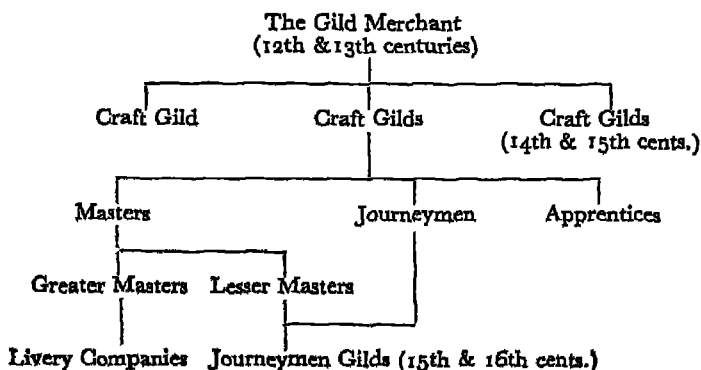
Flanders, that he decided to do all he could to revive the decaying industry in England. His opportunity came when persecution and high taxation made the Flemish weavers very discontented. Edward invited some of these to settle in England, promising them full royal protection. The first of these weavers, one John Kempe, "weaver of Flanders," came to England with his family, armed with a royal letter of protection in 1331, and settled in London. Many others followed, and in 1337 an Act was passed extending protection to all alien craftsmen who came to live in England. This was a cheap and effective way of acquiring trained craftsmen. They settled principally in London, Coventry, Norwich, Ipswich and York, and the woollen industry benefited enormously from their coming. In fact, the period 1330-1350 may be taken as the real beginning of the English woollen industry, and Edward III has earned the title of the "Father of the Industry." The craft guilds in the towns tried to compel these weavers to join the guilds and submit to their regulations. Frequent disputes and even riots resulted from the rivalry between the newcomers and the native guilds, and royal intervention was often necessary to protect the former. The causes for dispute gradually disappeared, as the alien entered into the life of the town and took on English apprentices to train.

During the fifteenth century, the towns became very prosperous, largely as a result of the rapid growth of the woollen industry. Exports of cloth increased enormously, while exports of wool declined, in spite of a considerable increase in sheep rearing. English broadcloth earned a world-wide reputation, and clothiers, owing to the prosperity of the industry, accumulated much wealth. Many of them endowed churches, schools and colleges. "Dick" Whittington was a wealthy clothier, and his princely gifts to London included a library for the Guildhall and the rebuilding of Newgate. The famous John Winchcombe, or "Jack o' Newbury," was said to employ four hundred weavers, and was wealthy enough to entertain Henry VIII, and to supply a hundred men for the battle of Flodden. It was in the cloth industry that the craft guilds first broke up into livery companies and journeymen guilds, the former monopolising the selling of cloth in the towns. Special markets, like Blackwell Hall in London, were established for the cloth trade, under the control of the livery

companies. Wool and cloth may be taken as the foundation of England's industrial greatness. The Lord Chancellor's seat in the House of Lords is still called the Woolsack for this reason.

CONCLUSION.—Towns made rapid strides during the Middle Ages, but they were very jealous of sharing their benefits and privileges with strangers. They were all semi-independent in character, and they did their best to exclude from their trade, not only foreign merchants, but even merchants from other English towns, unless special agreements or treaties existed between them. A man was proud of, and patriotic towards, not so much his country as his native town during the Middle Ages. Whenever he left his town, he became a "foreigner" in every other town. Mediæval economic life was organised on the basis of town and village, each living its own life in comparative isolation from outside influences, and each jealously guarding its own affairs.

ORGANISATION OF INDUSTRY IN THE TOWNS



CHAPTER III

TRADE IN THE MIDDLE AGES

DIFFICULTIES.—From what has been said of village and town life in the Middle Ages, it follows that the opportunities for trade, both internal and external, were very few. Apart from the fact that living was simple, needs beyond the necessities of life being few, there were serious obstacles to the development of commerce. A country which imports much from foreign parts has to export much. England had little to export, beyond raw wool, some cloth, a little tin, lead and iron, and the surplus produce of agriculture. These were collected in the process of the country's internal trade, mainly at the great fairs, which were also the media for distributing the imports. There is thus a close connection between internal, or home trade, and external, or foreign trade. The progress of trade depends largely on the facilities of transport and communication that exist at the time. These were very imperfect in the Middle Ages. Internally, the rivers were useful but slow, the coasting trade was subject to many perils, and the roads and bridges were in a very poor condition. The latter were maintained largely by voluntary agencies, the monasteries being the chief. Travelling by land or sea was exceedingly hazardous. The sea and the coasts were infested by pirates, which necessitated ships sailing in convoys for greater safety. The land routes were infested by robbers and highwaymen, which necessitated merchants travelling in bands, with their own bodyguards, frequently hired at the towns. Most people under these conditions, seldom went beyond the confines of their native village or town, and any journey was regarded as a great adventure. As people lived in comparatively small, scattered groups, a continuous trade involved much travelling. A journey from Oxford to London, with horse and cart, took a day in summer, and two in winter, while to go from London to Bristol took a week or more. The

roads must have been fairly good to allow even this. The great Roman roads still remained, and they were kept in a tolerable state of repair by the Church and by various charitable endowments. Travelling by sea was equally slow, so that perishable goods could never be carried. The ships were small and unable to withstand severe storms. Distant trade was confined solely to articles of small bulk and great value, and cargoes of this nature were tempting baits to pirates. Finally the costs of sea and land transport, under such conditions, were very heavy, and they were increased by tolls and customs levied by the crown and the barons, through whose estates merchants had to pass.

THE CHURCH INFLUENCE.—In spite of the difficulties, merchants were prepared to face the risks of trade, since success brought considerable profits. They required only a reasonable degree of security for themselves and their goods. They might secure royal protection at a price, groups of merchants combining to purchase a charter for this purpose. Such protection was valuable, if the king was a strong ruler. But the principal source of protection was the Church, the influence of which was very strong in the Middle Ages. The monasteries themselves were dependent on trade for the disposal and collection of the surplus produce of their numerous manors, and for the purchase of vestments, plate, salt, fish and other goods they needed. They also earned a considerable revenue from tolls and other charges levied for the right to trade on Church property. A good deal of the trade therefore took place directly under the protection of the Church. Merchants often disguised themselves as pilgrims and priests, thus securing some degree of immunity from attack, and lower tolls. Possibly highwaymen, besides being superstitious, and thus afraid to attack such people, thought them too poor to deserve their attention. Companies of merchants adopted the name and protection of some patron saint, while the holding of markets under the protection of a cross is shown by the term "Market Cross."

INTERNAL TRADE.—The internal trade of the Middle Ages consisted mainly of an interchange of goods between towns and the surrounding villages, together with the distribution of the few

luxury goods brought to England from foreign countries. The lord of the manor sold the surplus of his demesne lands in the towns, and the monasteries had much for disposal in the same way. Lords required their villeins to carry these goods to the markets as part of their services. The products of the towns that were normally sold included those of the various crafts, besides goods bought by native burgesses from foreign merchants.

FAIRS AND MARKETS.—In order to provide the necessary facilities for this internal trade, a network of fairs and markets grew up in England between the twelfth and the fourteenth centuries. Both of these were periodic marts, as distinct from continuous marts. In other words they were held at specific times, the markets weekly, and the fairs annually. The markets usually lasted for one day, although towns might possess two market days. The fairs lasted normally for a week, although some were held for shorter periods, and a few of the greater ones went on for as long as a month. Most towns possessed a market, the right to which was often a specific clause in their charter. Some towns possessed a covered-in market place, but usually the open streets were used, stalls being erected in them on the market days. A favourite place to hold the market was the churchyard. In spite of the Statute of Winchester, passed in 1285 to forbid this practice, it still continued to the great annoyance of some of the priests. One vicar was so incensed by a market held in his churchyard on a Sunday, that on one occasion he overthrew all the butchers' stalls, thereby upsetting the townspeople by interfering with what they regarded as a cherished right.

Most of the fairs and markets were of religious origin. Markets often grew out of the practice of merchants meeting under the shelter of a great monastery, or on a piece of ground attached to it. These meetings became regular occurrences known to the locality. Fairs often began with pilgrimages to holy places, like the birth or burial-place of a saint. The great fair of St. Cuthbert's, Durham, began from a gathering held on the feast day of that saint. The bones of a saint were discovered at St. Ives, Huntingdonshire, and this became one of the greatest English fairs. St. Giles' fair, Winchester, and St. Bartholomew's, London,

had a similar origin. These pilgrimages collected large crowds of people, and it was natural for merchants and traders to be attracted there, to supply the needs of the pilgrims. Many of the pilgrims were themselves traders. The great advantage about these meetings was that they were held on certain days every year, a guarantee to merchants of a relatively large market. The fairs were, in fact, national institutions, attracting people from all over the country, while many of them, like Stourbridge, St. Ives, and St. Bartholomew's, were of international reputation, attracting to them merchants from all over Europe. This distinguishes fairs from markets, the latter being of purely local significance, supplying the ordinary everyday needs like corn, foodstuffs, salt and hardware. Articles of foreign origin like tar, millstones, spices, gems, velvets, cloths of gold, perfumes, wines and drugs, could only be purchased at the fairs.

Fairs and markets had to be licensed by the crown, the rights being granted to a town, to an individual, or, as in the case of most fairs, to the Church. The licence carried with it the "King's Peace" or the "Peace of the Church," and disturbers of the peace of the fair were very severely dealt with. Persons could not be arrested during the fair, except for a breach of the king's customs. This form of security was of great value to merchants during the Middle Ages. The peace might be broken by armed bands, who sometimes attacked fairs. In 1450 the sheriffs and aldermen of London attended St. Bartholomew's Fair with three hundred men to give protection to traders. It was frequently part of the manorial services of villeins to act as constables or guards at neighbouring fairs. Of equal importance to the merchants was the institution of a special court to deal with all matters arising out of the activities of fairs and markets. Merchants, who visited fairs, did not desire the risk of being delayed by a tedious law-suit over a business transaction or dispute. The court, which was presided over by the lord of the fair or market, was composed of representatives of the lord of the fair, of buyers, and of sellers, and it gave immediate decisions on cases submitted to it. It dealt summarily with peace breakers, with claims concerning long-standing debts, with complaints from buyers about the quality or price of their purchases, disputes about customs, and cases of fraud, like sacks of "good" corn filled with rubbish

under the top layer, or selling "gold" rings knowing them to be brass. Its decisions, made on the merits of each particular case on unwritten law, may be said to form the basis of the "Law Merchant," a code which is respected by all those engaged in commercial transactions. This court was popularly called "The Pie-Powder," or the "Court of the Dusty Feet" (French *Pieds poudreux*), from the fact that merchants entered it with all the dust of their travels still adhering to them.

Fairs and markets thus became organised centres of periodic trade, and the bulk of mediæval internal trade was carried on in them. The fairs were held on the open fields, temporary stalls and booths being erected on them. These were arranged in rows, merchants from different parts, like London, Cornwall, north Germany, France, Flanders, and Venice, being assigned different portions. This was partly to prevent possible outbreaks of fighting among the different groups, since feuds between rival groups were quite common. For instance in 1260, at Coventry Fair, there occurred a serious affray between London merchants and natives. The stalls were also arranged in rows, according to the wares sold. Thus there was a Butchers' Row, an Apothecaries' Row, and so on. This arrangement was convenient for the buyers. It also made the work of supervision and inspection for fraud easier, while it facilitated the collection of the customs and tolls. During the fair, all other trading in the district was usually suspended, the natives having stalls assigned to them at the fair. This was again desirable in the interests of public dealing, and to prevent traffic in stolen goods, which was very common in spite of all precautions. The buyer of any article was protected by law if his transaction was made in public, before witnesses. Fairs and markets provided the necessary publicity, and also the means to determine whether the goods had paid the custom due to the crown.

The fairs were opened by proclamation, which required all to deal justly, to sell only wares of good quality, and to give just weight and measure. All dealings ceased at sunset, the evenings being spent in games and merrymaking. From the opening of the fair until its closing, the lord of the fair assumed complete control. He was nominated by the owner, and had assistants and constables to help him in his work. Often he was vested

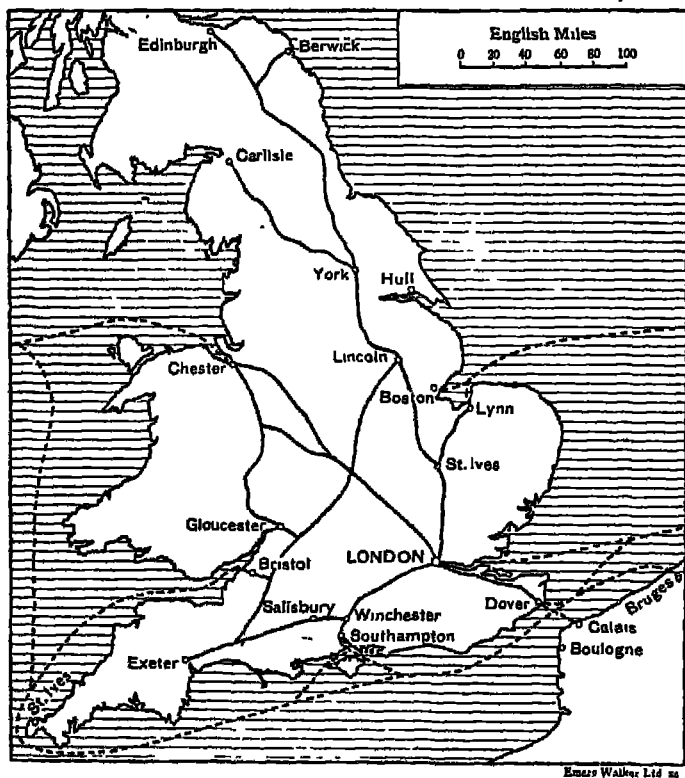
with authority over the entire district, the mayor of the town handing over his office to him for the period of the fair. This was the case at Winchester, during St. Giles' Fair, all dealings outside the fair being prohibited. The prohibition extended even to Southampton, and in spite of the vigorous protests of the inhabitants against this interference with their trade, the prohibition was not removed until 1406.

Fairs and markets yielded a revenue to the owners. Some of the important markets were worth as much as £10, while the Fair of Stourbridge and that of St. Giles yielded at one time over £140. These profits came from the rents of the stalls, customs charged on goods sold, the fees and fines of the Pie-Powder Court, and perhaps tolls charged for the rights of trading. These charges were usually the same for all merchants, although there were attempts to penalise some by excessive charges. The merchants of London refrained from attending Waltham Fair until the abbot reduced his tolls. Sometimes the profits went to support some charitable institution, as at Stourbridge, where the fair maintained a hospital.

Fairs and markets undoubtedly stimulated the growth of trade, since they were open to all merchants. They provided facilities for free trade when the monopoly of the gilds in the towns restricted trading in normal times. When a fair petitioned for an extension owing to an increase in trade, native dealers were vigorous in their opposition, as it threatened to break their monopoly. The fact that fairs attracted traders, not only from all parts of the country, but from foreign countries as well, indicates their value for trade. The fair at St. Ives was a well-known centre for hides, wool and cloth; that of St. Giles for cloth, foreign produce, and, after the introduction of printing into England, books; that of Stourbridge, the greatest of all English fairs, for costly works of embroidery, velvets, silks and cloth of gold; and St. Botolph's Fair, Lincoln, was noted for wines, groceries and cloth of all kinds.

Fairs declined rapidly as trading centres after the sixteenth century, although some of them were still important even at the end of the seventeenth century. Their decline was due almost entirely to the development of continuous trading in the towns. When opportunities existed to purchase needs at any time, fairs

ceased to be essential. Those that have survived up to the present have now merely an historical interest, and are regarded more as places of amusement than trading centres, although some trade may still be carried on in them. The town market day is still



ENGLAND AND WALES

Map showing chief internal trade routes during the Middle Ages

a fairly important institution, and many towns have their covered-in market places. An interesting revival of the fair in modern times is the British Industries Fair, to which traders from all parts of the world are attracted. Some of the modern exhibitions, like the Motor Show, also bear some similarities to the mediæval fair.

FOREIGN TRADE.—From the eleventh until the sixteenth century, English foreign trade was largely, but by no means entirely, in the hands of alien merchants. As the centre of gravity of European commerce was the Mediterranean, England was situated away from the main trade routes, which were controlled by the great city states of Italy, southern France, Spain and Germany. These states were wealthy and powerful while England was poor and weak. English merchants had not the capital to embark on risky voyages, with a few exceptions, like the merchant princes Tavener of Hull and Canynges of Bristol, both of whom possessed their own fleets. Alien merchants were attracted to England, not merely to find a market for their wares, but to get supplies of wool, for which there was a keen demand among the weaving countries of Europe. English merchants were quite content to allow aliens to face the risks of sea voyages. While they were unprepared to undertake their own trade, this was the only means by which foreign goods could be brought to England in any considerable quantity, and by which England's surplus could be sold to foreign markets.

THE ITALIAN CITIES.—The premier commercial power of southern Europe during the Middle Ages was Venice, of which Wordsworth says, "Once did she hold the gorgeous East in fee." Built on the lagoons of the northern Adriatic, protected by the Alps from the perils of the north, and possessing easy access to the fertile plains of northern Italy, Venice was admirably situated for trade. By the aid of a strong fleet, she had established her control over the eastern Mediterranean, building along the coast a line of settlements and forts from Alexandria to Asia Minor and the Black Sea. This strip of coastline was the terminus of three great routes to the East, by which the spices, drugs, perfumes, gems, silks and costly cloths, reached Europe from India and China, the Arabs acting as the links in the connecting chain. These routes were comparatively free from serious dangers after the Crusades had saved them from the Saracen Turks, and Venice kept them open until the Turkish invasion of the fifteenth century, by commercial treaties with the Saracens and the Arabs. The prosperity of Venice depended solely on this trade, and she amassed great wealth by acting as the middle-

man between Europe and the East. Venetian fleets laden with their precious cargoes for all parts of Europe, sailed under government protection. One of these fleets, the Flanders Galleys, came annually to the English Channel, part going to Bruges, the great mart of northern Europe, and part to Southampton. The merchants disposed of their wares at the great fairs, using London and Winchester as their chief centres. They took back with them quantities of English wool, some lead, iron, and tin, and a good deal of English money. This was annoying to English merchants, as it depleted the scanty stores of money, and the trade was thus unpopular with the towns. Besides these annual expeditions, individual Venetian merchants also traded in England, and London was never without some of them. This trade continued until the sixteenth century, after which it disappeared, owing to the collapse of Venice following the loss of the trade routes to the East.

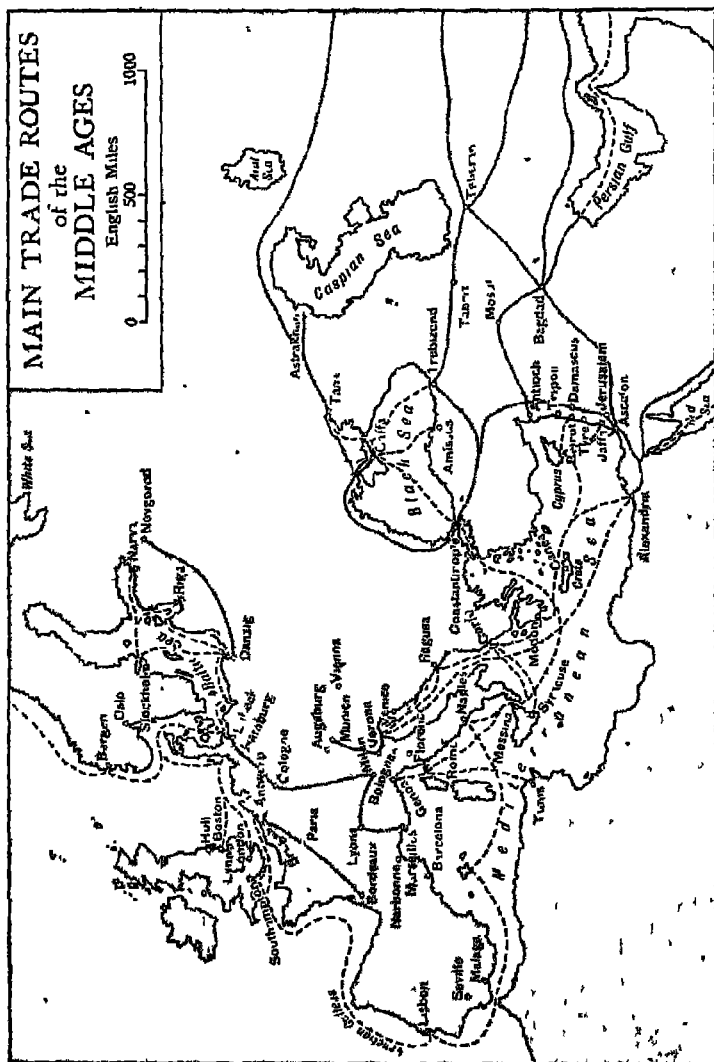
THE HANSE LEAGUE.—The most powerful trading association of the Middle Ages was the Hanse League, known also as the Hansards or the Easterlings. Originating in trading cities like Cologne and Hamburg, at one time it embraced over a hundred towns, leagued together in an offensive and defensive alliance in the interests of trade. Their proud motto was, "Trade to us is a necessity, to live is not." They were strong enough to emerge triumphantly from an armed conflict with Denmark. The leader of this powerful league was Lübeck, and other important towns were Dantzic, Brunswick, Augsburg, Munich, Cologne, and Hamburg. They had trading centres at Bergen, Novgorod and Bruges, and they attached very great importance to their trade with England. The men of Cologne had a hanse, or market, in London early in the twelfth century. Their privileges were subsequently extended to other towns in the League. They paid part of Richard I's ransom, in return for which they secured reduced customs and important trading rights. Their wealth enabled them to purchase extensive privileges, while their frequent loans to the crown placed the king almost continuously in their debt. They established permanent residences at London, Boston, and Lynn, the first, called the Steelyard, being the most famous. It occupied the site of the present Cannon Street

Station, and, to protect the merchants from Londoners, it was surrounded by a strong wall. This remained their centre until it was finally closed by order of Elizabeth in 1591.

The Easterlings brought to England the products of northern and central Europe. These included tar, oils, wax, tallow, skins and furs, ropes, sailcloth, flax, hemp, fine cloths and iron. They took out from England, wool, cloth, tin, etc. They were the most privileged of all merchants trading with England, even enjoying lower tariffs than native merchants. They had also extensive privileges in the retail trade, and all government measures which aimed at limiting the power of aliens, had a saving clause for them. Even London found it best to enter into an agreement with them, and in return for bearing the expense of maintaining some of London's gates, they were allowed retail trading privileges in the city.

Besides these two groups of aliens, the Gascons brought their wines to England, the Spaniards their wines, nuts and fruits, and the Flemings their cloths.

ENGLISH MERCHANTS.—The English towns during this period were engaged in a constant struggle to restrict the aliens to the wholesale trade only. Regulations were passed to limit their period of residence in the towns to a minimum time, usually forty days, and to compel them to stay with a member of the gild, who could then supervise their transactions. The crown and the barons were so much indebted to the rich aliens for loans, that this policy of the towns was contrary to their wishes, and the aliens were able to maintain their privileges in spite of the opposition of the towns. This was one cause of the conflict between the crown and the powerful boroughs, but until English merchants were able to give financial assistance to the king, the towns were practically powerless. There were, in consequence, frequent scenes of disorder in the towns between aliens and natives. The Lombards were attacked in London in 1359. They were mainly moneylenders and changers, their influence surviving in the name of Lombard Street, the centre of the modern London money market. Their emblem, the three brass balls, has also survived. During the Peasants' Revolt, foreign merchants were roughly handled in many towns, and the privileged Easter-



THE ECONOMIC HISTORY OF ENGLAND

lings were only saved by their strong walls. In 1517, many aliens were massacred in London during a great riot.

THE STAPLE.—Among the many charges made against alien merchants were, that they took money out of the country, circulated bad foreign money, and avoided the king's customs by extensive smuggling. The towns petitioned the government to establish certain staples, and to compel the aliens to buy only at these centres. These would then become depôts, where merchants could deposit their wares at any time. A continuous market would thus be established, and trade in particular goods could be directed into certain channels. Attempts were made to establish staples at Dordrecht in 1285, at Bruges and at Antwerp. By an ordinance of 1326 home staples were fixed, six in England, three each in Wales and Ireland, but this attempt failed, as the aliens complained that it was inconvenient for them to buy only at these centres. Home staples were popular with English merchants, as the alien had then to risk the sea voyages. Calais, an English town, was finally made the raw material staple, and it remained so for two centuries, until its loss in 1558. The goods that passed through the staple, including wool, hides, and leather, were called staple merchandise.

THE MERCHANT STAPLERS.—The English merchants who traded in the staple merchandise associated into the company of the Merchant Staplers, one of the two earliest English trading companies. It was not a company in the modern sense, but was similar to a gild adapted for trading purposes. Those merchants who joined it paid entrance fees and contributions, and promised implicit obedience to the regulations of the company. They traded individually, but they benefited from the privileges the company obtained and by its protection. The headquarters of the Staplers was Calais, where they possessed their own mayor and council, and even their own court. They claimed a monopoly of the trade, and they were able to purchase various charters from foreign princes, granting trading privileges, and from the English crown, confirming their monopoly of the trade and their right to elect a mayor and council. The company flourished while there was a considerable surplus of wool to export, but when

the woollen industry grew in England, this surplus was reduced, and the Staplers' trade began to decline. The company finally disappeared in the sixteenth century, the merchants joining other companies, which exported manufactured goods, mainly cloth.

THE MERCHANT ADVENTURERS.—The other important company of English merchants that helped to build up English foreign trade was that of the Merchant Adventurers. Originating in a group of London Merchants, calling themselves the Fraternity of St. Thomas of Canterbury, this company ventured with English goods, mainly cloth, into the markets of Europe. They were organised as a regulated company like the Staplers, membership being open on the usual terms. They met with such bitter opposition from the Hanse League that their early history was one of constant struggle, leading to open warfare at times. They were expelled from the Hanse towns, where they sought to obtain a footing, and finally established staples at Antwerp and Bergen. From the former they developed a growing trade with Germany, France and Flanders, and from the latter with the Scandinavian countries. The Merchant Staplers were also their rivals, and complained that they were invading their privileges. The Adventurers, however, claimed a monopoly of the cloth trade, and retaliated by preventing the Staplers exporting cloth. This monopoly was confirmed by a charter in 1404, and in 1505 Henry VII renewed their charter, at the same time granting them wider privileges, such as the right to elect their own mayor and council to supervise the trade.

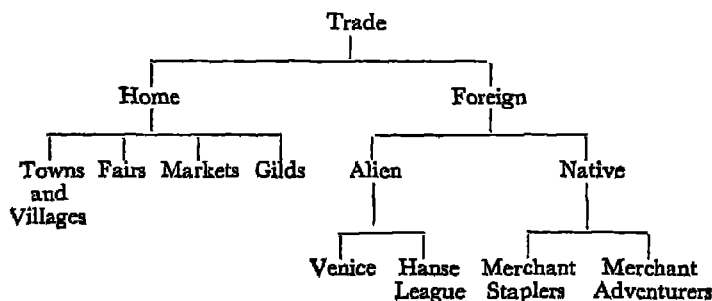
THE EXPANSION OF ENGLISH TRADE.—During the fifteenth century English foreign trade made considerable progress. English merchants began to compete successfully with the aliens, not only in England but in European markets. English ships, "tall and fair," began to penetrate as far as the Mediterranean lands, and John Tavener, the Hull merchant prince, was even powerful enough to get special privileges for his fleet to pass through the Straits of Gibraltar. The Merchant Adventurers, in particular, gained a strong foothold in the north-western countries of Europe, protecting their trade by charters, which

44 THE ECONOMIC HISTORY OF ENGLAND

they were able to purchase from foreign princes. Foreign products, silks, rhubarb, malmsey and other wines, sweet oils, cotton, wool and spices, began to come to England in English ships, which went out in increasing numbers, laden mainly with English cloths.

By the end of the century, the merchants were strong enough to bring pressure to bear upon the government to mete out similar treatment to aliens in England as Englishmen received abroad. Even the Hanse League was compelled to enter into an agreement with the Adventurers, allowing them to trade more freely in the German towns. In the early Middle Ages English merchants were content with the internal trade, but by the fifteenth century they were on equal terms with the alien even in foreign trade.

MAIN DIVISIONS OF TRADE



REFERENCE BOOKS FOR PART I

- | | | | |
|-------------------------|---|---|--|
| C. M. ANDREWS | . | . | <i>The Old English Manor.</i> |
| SIR W. ASHLEY | . | . | <i>The Economic Organisation of England.</i> |
| Do. | . | . | <i>Introduction to English Economic History and Theory.</i> |
| M. BATESON | . | . | <i>Mediæval England.</i> |
| BLAND, BROWN AND TAWNEY | . | . | <i>English Economic History—Select Documents.</i> |
| G. CHAUCER | . | . | <i>Canterbury Tales.</i> |
| W. CUNNINGHAM | . | . | <i>Western Civilisation (Vol. II).</i> |
| Do. | . | . | <i>Growth of English Industry and Commerce. (Vol. I—Mediæval Times).</i> |
| LORD ERNLE | . | . | <i>English Farming Past and Present.</i> |
| A. S. GRIEN | . | . | <i>Town Life in the Fifteenth Century.</i> |
| E. LIPSON | . | . | <i>An Introduction to the Economic History of England—Middle Ages.</i> |
| Do. | . | . | <i>The English Woollen and Worsted Industries.</i> |
| F. W. MAITLAND | . | . | <i>Domesday Book and Beyond.</i> |
| C. OMAN | . | . | <i>England Before the Norman Conquest.</i> |
| E. POWER | . | . | <i>Mediæval People.</i> |
| L. F. SALZMANN | . | . | <i>English Industries of the Middle Ages.</i> |
| JOHN STOWE | . | . | <i>A Survey of London.</i> |
| H. B. TRAILL | . | . | <i>Social England.</i> |
| G. UNWIN | . | . | <i>The Gilds and Companies of London.</i> |
| Do. | . | . | <i>Trade and Finance under Edward III.</i> |
| Do. | . | . | <i>Industrial Organisation in the Sixteenth and Seventeenth Centuries.</i> |
| P. VINOGRADOFF | . | . | <i>The Growth of the Manor.</i> |

PART II

1485-1660

INTRODUCTION

THE TUDORS.—Henry VII, the first of the Tudors, was crowned in 1485 after Bosworth Field, the last battle of the Wars of the Roses, which had devastated the country for the previous twenty years. The domestic life of England suffered considerably from these wars, and a strong rule was necessary to restore prosperity. The Tudors provided this, and for over a century England was governed more firmly than she had ever been before. The country, tired of civil war, welcomed peace at any price, and the Tudors were able to establish a despotic form of government, based on the consent of the people. The barons, who had been considerably weakened by the Wars of the Roses, and whose numbers had been greatly reduced by the fighting, were brought completely under the control of the crown. They were compelled by law to disband their armed retainers, whom they kept to protect their estates, and to engage in their private feuds. Many of the barons, in fact, gave up living in their castles, which were rendered obsolete by the discovery of gunpowder, and went to live in the towns.

Henry further strengthened his position by marrying Princess Elizabeth of York, which reconciled the two houses of York and Lancaster. During his reign many excellent reforms were carried out. The finances of the country were strengthened, the administration of justice was improved, and commercial alliances were concluded with European countries, alliances which helped considerably towards the restoration of English trade. His reign marks one of the greatest turning-points of history, when England drifted away from Mediævalism and entered the Modern Age. The approach of the new age was

heralded by a series of discoveries, which not only opened up new lands and new routes for European commerce, but involved the conquest of the great oceans by mariners. The whole outlook of Europe was changed by the great explorers of the sixteenth century.

THE GREAT DISCOVERIES.—The world was startled in 1453 by the fall of Constantinople to the Turks. Constantinople was one of the greatest centres of civilisation in the Middle Ages. It had withstood attacks for over a century, and when it fell, hordes of Turks swarmed into Europe. Subsequently they advanced into Asia Minor, Palestine, and North Africa, and by the beginning of the sixteenth century the three great routes to the East were in their hands. Later they even advanced as far as the gates of Vienna, but were then driven back to the Balkan Peninsula.

The effect of the Turkish invasions on Venice and the other Mediterranean cities was disastrous. The Turks levied heavy tribute on the Eastern trade, and Turkish pirates made navigation on the eastern Mediterranean almost impossible. Venice struggled valiantly to retain her position, but the odds against her were too great. Her commerce dwindled and her collapse was swift. The Eastern trade, however, had become indispensable to Europe, and in order to maintain it, navigators turned their attention to the discovery of new routes to the East, by which Eastern goods could again come to Europe. The revival of the old Greek theory that the world was round (finally established by Copernicus in 1543), opened up the possibility of finding different routes to the same place, and stimulated exploration. Another great discovery, which was invaluable to navigators, was that of the mariner's compass, by the Venetians. This became indispensable in enabling sailors to determine their direction, relieving them from dependence on the stars as their guides. The great discoveries of this period were thus due to the desire to reach the East by routes other than those which had been used for so long, but which were now dominated by the Turkish invaders. New lands were discovered

accidentally in the pursuit of this object. The work of exploration was prepared by the theory of Copernicus and assisted by the use of the compass.

PORTUGAL.—The pioneer countries in the work of exploration were Spain and Portugal. Venice was too much occupied with defending the old routes to explore new ones. Venetian and Genoese sailors, however, were employed by these two nations to pilot the voyages of discovery. In 1487, Bartholomew Diaz rounded the Cape of Good Hope, and thus reached the southern extremity of Africa for the first time. For the previous half-century, Portuguese expeditions had gradually worked their way along the West African coast seeking for the lairs of pirates who raided their shipping. In 1497, Diaz's work was completed by Vasco da Gama, who reached India, and discovered for Portugal the first all-sea route to the treasure-house of the East. After twenty years of fighting by land and sea against Venetians, Turks and Arabs, the Portuguese established themselves firmly as traders in India, and for a century, Portuguese merchants became the middlemen between the East and Europe, thus displacing Venice.

SPAIN.—In the meantime, Columbus set sail from Cadiz in 1492, in the service of Spain, to find the East by sailing westward. He did not find India, as he supposed, but islands subsequently called the West Indies, which lay just off the vast continent of America. He made three voyages in all, but from the commercial point of view they were all failures. He did not return with cargoes of spices, gems and silks, for which the merchants who financed him hoped. Spain was thus disappointed with his work, and he was compelled to give it up for lack of further support. It was not until after his death that the greatness of his work was appreciated, and that Spain began to honour him as a national hero.

Other explorers completed the work of Columbus. Amerigo Vespucci proved that what Columbus had really discovered was a new continent that lay between Europe and the East. Magellan in 1520 rounded South America, being the first white man to sail into the Pacific Ocean. He himself was killed in an affray

with natives in the Philippine Islands, but his captain, Sebastian del Cano, sailed beyond the Philippines, round Africa, and back to Spain, circumnavigating the world. Thus another route to India was discovered, but it was not of much use for the Eastern trade as the Portuguese route round Africa was shorter and safer.

DISCOVERY OF GOLD.—From the trading point of view, these discoveries in the West were very disappointing to Spain. America was regarded simply as a stepping-stone and a barrier to the East. But between 1520 and 1532 the value of America was completely changed in the eyes of Europe by the discovery of enormous resources of precious metals in the country. In 1520, Cortez, a Spanish colonel, discovered the wonderful walled city of the Aztecs, in the interior of modern Mexico. The inhabitants had reduced the neighbouring tribes to subjection, and had a well-developed civilisation of their own. They had discovered valuable gold deposits in the neighbourhood and they were expert workers in this metal. The Aztecs were conquered, their civilisation unfortunately wiped out, and the Aztec gold was diverted to Europe. The discovery of the city of the Incas, in Peru, ten years later, with its enormous resources of silver, turned the stream of precious metals into a river flowing towards the old world. These districts were quickly colonised by the Spaniards, and the West began to rival the East in commerce, sending to Europe large quantities of precious metals annually. Spain became a rich country, and the scarcity of precious metals which had existed in Europe throughout the Middle Ages, was turned into plenty. This was not an unmixed blessing, as the value of bullion fell, owing to the greatly increased supply. This resulted in rising prices all over Europe, from which those engaged in trade benefited, but the poor, who depended on wages, suffered.

EUROPEAN EXPANSION.—The success of Spain and Portugal roused the other European nations to follow their example. English explorers concentrated on efforts to find north-east and north-west passages to India, hoping to discover lands on the way which would become markets for English woollen goods. John Cabot discovered Newfoundland in 1496. In 1550,

Willoughby and Chancellor led an expedition to discover a north-east passage round the north of Russia. The ships were unfortunately wrecked and most of the crews perished. The survivors reached Russia overland, and were able to secure trading privileges for English merchants from the Emperor. The Elizabethan seamen, of whom the greatest were Drake, Hawkins and Raleigh, explored parts of the mainland of America hoping to discover gold-mines. Their efforts failed, and they turned buccaneers, attacking Spanish treasure fleets on their way to Spain. This became one of the causes for war with Spain later in the century. On one famous occasion, in the year 1577, Francis Drake sailed into the Pacific Ocean on a pillaging voyage, and to avoid Spanish vessels which were lying in wait for his return, he sailed across the Pacific. After an adventurous voyage, lasting about three years, he returned unexpectedly to England, having sailed round the world like Sebastian del Cano half a century earlier. The attempts to find the north-west passage continued in the seventeenth century. Though they failed in their object, the lands of northern Canada were explored, and the Hudson Bay Company was formed to trade with these regions.

RESULTS OF THE DISCOVERIES.—The Age of Discovery was accompanied by changes of the utmost importance to the whole of Europe, but particularly to the countries facing the Atlantic Ocean. The centre of gravity of commerce was changed from the Mediterranean to the Atlantic. The former declined rapidly in its commercial importance, and the latter became the main trading highway of the world. The discoveries ended the stage when trade was almost confined to inland seas, and began the era of the great ocean trade routes of the world. The conquest of the oceans by these daring explorers, in the type of ships which they had at their command, called for the greatest skill and powers of endurance, besides supreme courage.

The decline of the Mediterranean brought about the ruin of the city states of Italy. They were succeeded by the great nations of Europe, and thus the age of nations followed that of cities. National rivalries were created centring round the struggle for colonies and trade. This began a period of European expansion,

during which the New World was peopled by the old, and empires were built up by the European nations. Spain, with her western empire, became the greatest power in Europe during the sixteenth century. But unfortunately for her, the wealth she gained from the New World was not used to develop the resources of the country. These were neglected and her wealth was wasted in financing the wars of her kings. England and Holland in the meantime developed their trade and industries, and when Spain fell, they succeeded her as the great powers of Europe.

Although England played such a minor part in the early discoveries, ultimately she benefited from them more than any other country. Her position, with the long Atlantic seaboard, gave her the key to the commerce of the West. Hitherto she had been badly placed for trade, being too far from the great routes. Now she had the whole of the Atlantic before her, and English merchants had only to carve out for themselves new routes to the growing markets of the West, to find outlets for English goods. These possibilities opened up a new era in England, during which trade made rapid strides. Part of the wealth made in trade was invested in agriculture and industry, both of which in consequence, shared in the progress of trade. The commercial classes gained a wealth, power and influence in the country, forming the new aristocracy of the sixteenth century. The increasing importance of the merchants was accompanied by a decline in the power of the older aristocracy, the feudal barons of the Middle Ages. Thus the sixteenth century may be regarded as the beginning of the age of commercialism, during which the country's economic life was organised on commercial principles, and capital began to play an important part in the daily life of the people. In addition to trade, both agriculture and industry were gradually commercialised. They began to produce for the market as a means of profit, instead of for the locality as the means of livelihood or subsistence.

THE DECAY OF MEDIEVALISM.—We have seen from the previous chapters that during the Middle Ages, England was made up of self-sufficing villages and semi-independent, privileged towns, with trade occupying a comparatively unimportant place. In

the villages life was controlled by the manorial system. The villagers were serfs and the lords of the manor wielded considerable power, although they were bound to the crown by the ties of feudalism. The boroughs lived their own local life, suspicious of all outsiders, and attempting to confine trade to their own citizens. The industries were under the control of the guilds, and the civic life under the mayor and magistrates. These characteristics belonged to Mediævalism. Already, by the fifteenth century the manorial system was breaking up, and the guilds were losing their monopoly and power. In other words, Mediævalism was passing away, and something else arose to take its place. During the sixteenth century its decay became complete, and the foundations of Modern England were laid. All changes from one system to another have to pass through a stage of transition, during which old ideas and customs slowly adapt themselves to the new conditions, and many fresh problems are created which take time to solve. This great change from Mediævalism to modern times could not take place without dislocating the life of the people. The changes through which agriculture passed caused much hardship in the villages. The decline of the guilds took away from the members security of work and assistance during bad times, which the guilds had provided.

THE AGE OF ELIZABETH.—By the reign of Elizabeth the dislocation was almost over and England began to settle down to the new order. The world had become accustomed to the discoveries and England began to build up her colonies in the New World. Central government had been firmly established, and parliament became a more important body than it had ever been before. The towns ceased to be little independent states, and the local barriers which they had erected against trade were swept away. Trade thus became free throughout the length and breadth of the country, while the protection resulting from the security of strong government removed from the merchants many of the perils which beset them in the Middle Ages.

THE RENAISSANCE.—England also shared in a great revival of learning during this period. The Renaissance, as it was called,

received a strong impetus from the Turkish invasion. The Turks were destroyers of civilisation and learning. Constantinople had been for centuries one of the greatest centres of learning in Europe. The scholars fled westward at the approach of danger, and carried their learning with them to Italy, Spain and France. Universities were established, to which students flocked from all over the continent. Interest was revived in the literature, philosophy and science of the Greeks and Romans, resulting in a great stimulus to thought, from which every branch of knowledge gained. The spread of learning was made much easier by the discovery in France of the art of printing, which Caxton introduced into England. Books ceased to be rare treasures which had to be chained for safety. They were brought within the reach of the mass of the people.

THE REFORMATION.—The revival of learning awakened a new interest in religion. It was a young German scholar of the University of Wittenberg in Germany, Martin Luther, who began the great campaign against the Roman Catholic Church, which led to the establishment of Protestantism. For some time, reformers like Savonarola had been preaching against the corruption and luxury which existed at the Papal Court in Rome, advocating a reform of the Church itself and of the Papacy. Martin Luther's preaching roused the whole of North Germany. Many of the German princes accepted his doctrines, and broke away from the Church of Rome. In 1531, Henry VIII, who had quarrelled with the Pope owing to the latter's refusal to consent to his divorce from Catherine of Aragon, got parliament to pass the Act of Supremacy, which severed the English Church from Rome. This began the Reformation movement in England. Under Elizabeth, the Anglican Church was finally established, with the crown as the head in place of the Pope. From this time onward, England was regarded as the Protestant champion of Europe, particularly after the defeat of the Spanish Armada in 1588, Spain being the Catholic champion. Although England fortunately escaped from the religious wars which devastated Europe, the conflict between Roman Catholicism and Protestantism was one cause of the disturbances which this country experienced in the seventeenth century.

THE STUARTS.—The Tudor period ended with the death of Elizabeth in 1603. She was succeeded by James VI of Scotland, the first of the ill-fated Stuart House to sit on the English throne. The accession of James I united the crowns of Scotland and England, although both countries retained their separate governments until 1707, when the two were finally merged. James and his son, Charles I, who believed in the theory of the Divine Right of Kings, in their attempts to become absolute monarchs, came into conflict with parliament. Charles ruled without parliament altogether for eleven years, between 1629 and 1640, and so alienated that important body. The Stuarts also experienced great financial difficulties. These were due partly to the rising prices of the period, which increased the expenses of governing the country, and partly to the fact that Elizabeth, in order to meet her expenditure, had sold many of the crown estates. Thus the Stuarts were faced with an increased expenditure and a reduced income. In order to solve the difficulty, taxation had to be increased. The consent of parliament was necessary for this, which meant that it had to be called together. To avoid this, Charles tried to collect money by various methods, like the selling of monopolies and charters of trade to various companies, and by levying ship money on all towns in the country. In times of war it was legal to require the seaports to provide ships for the navy, but to extend it to the inland towns, and to attempt to enforce it during peace, roused the towns to opposition against the king. In Church affairs, Charles alienated the puritan party in the English Church, by his support of Archbishop Laud in improving discipline and enforcing an extended use of ritual, while his attempt to force Scotland to use the English Prayer Book led to war with that country.

To get money for this war, Charles was compelled finally to call parliament together in 1640. Two years later the quarrel between king and parliament came to a head, and for the next seven years England was torn by the Great Civil War.

CHAPTER I

CHANGES IN AGRICULTURAL ORGANISATION

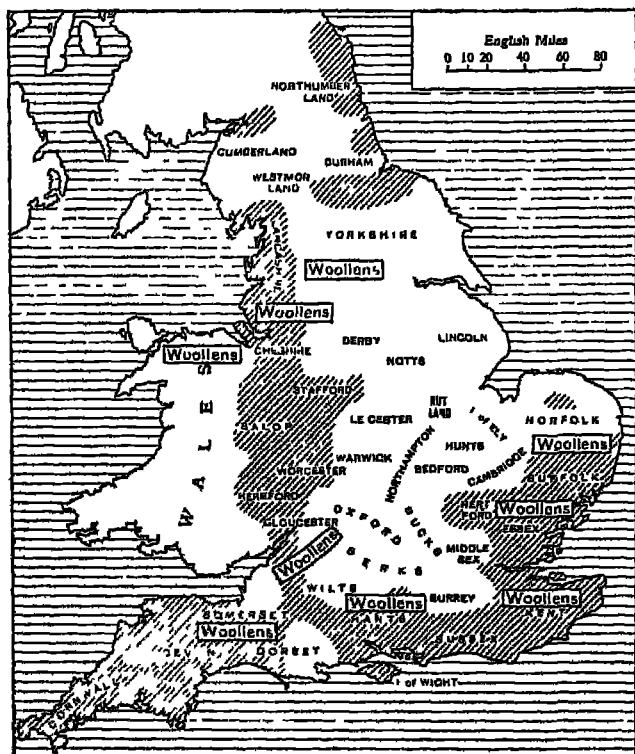
THE ENCLOSURES.—During the sixteenth century English agriculture passed through a period of important changes, the chief of them being a great wave of enclosure. Not only were the waste and common lands affected, as in previous centuries, but the open arable fields as well. The fifteenth century had been on the whole a time of great prosperity for the English peasantry, and many villages had agreed to enclosure during this period, in order to avoid the inconveniences of the open field system. Time spent in walking from strip to strip could be ill afforded when labour was so scarce. Such enclosure involved a complete change in the agricultural methods of the villages concerned. The manorial method of farming in common was replaced by the modern method of individual farming. The scattered strips were collected together to form compact holdings, and enclosed. Tenants could then farm their land as they liked. This made possible improvement in methods, and gave an opportunity for enterprising individuals to experiment with new ideas. It was claimed that the enclosed fields produced twice as much corn per acre as when they were open. These enclosures occurred extensively in Kent, and that county was described in the sixteenth century as the most prosperous in the country. Enclosure of land for this purpose of improving farming continued in the sixteenth century, and in most cases the villages benefited considerably from it. The land became more valuable, the crops became heavier, the demand for labour rose, and the villagers became more prosperous.

Such enclosures passed almost unnoticed, because few people, if any, suffered from them. But another type of enclosure occurred, which aroused a storm of complaint and bitter opposi-

tion from the peasantry. This was enclosure accompanied by conversion of the land to pasture for rearing sheep. There was a growing demand for wool owing to the rapid growth of the woollen industry in England. Sheep-rearing therefore became a very profitable occupation, and as it also required very much less labour than corn-growing, these enclosures spread very rapidly, especially in the Midlands and in many parts of the south. During the Middle Ages, the chief motive for farming had been to provide for the subsistence of as many people as possible, since greater numbers meant increased security for the village. But life was now much more secure, and the lords began to look upon their land more as a source of profit than subsistence. Land was therefore put to its most profitable use, and the motive changed to farming for the market rather than for the subsistence of the village. Agriculture was therefore gradually commercialised.

THE VILLAGES DURING ENCLOSURE.—If the lord's demesne only was enclosed and converted to pasture, the village did not suffer much, except that some unemployment was created by the reduced demand for labour. One or two shepherds took the place of perhaps twenty to thirty people who had been necessary for cultivating the demesne before enclosure. If the wastes and commons were enclosed, the effects on the village were very serious. The villagers were deprived of their rights of pasture by which they were able to maintain their stock. Stock was essential not only to work the plough, but to provide manure for the soil. Sometimes the villagers were compensated for the loss of pasture rights either by money or by small pieces of land ; but even where this was done, it did not adequately compensate them, and many of them had to give up their arable holdings in consequence of their inability to keep sufficient stock to cultivate them properly. If the open fields were enclosed and turned to pasture, it brought disaster on the villages, because it meant the eviction of the tenants from their holdings. As there was only work left for a few shepherds, the rest had to leave the villages, and either become beggars or attempt to find work in towns or villages which had not been enclosed. The leaseholders could be evicted at the end of their lease, and most of the customary

tenants, or copyholders, as the descendants of the villeins were now called, were in a very insecure position. Those copyholders who were tenants at will, that is, whose holdings depended on



Emery Walker Ltd sc

ENGLAND AND WALES

Map showing chief enclosures in England during the Sixteenth Century, and principal cloth-making districts

the will of the lord, could be turned out at any time. Copyholders for life were safe themselves, but at their death their families could be evicted. Only a small proportion of the customary tenants were safe, those whose copyholds were trans-

ferred automatically from father to son. Some of these even could be evicted by raising their rents beyond what they could afford to pay, or by making the fine which the sons had to pay on succession exorbitant. Only the freeholders were really secure against eviction. They could claim the full protection of the law against a lord who attempted to take away their land, but as they only formed about one-fifth of the rural population, the bulk of the villagers suffered considerably from the enclosure movement.

THE RESULTS OF THE ENCLOSURES.—Owing to the conversion of arable land to pasture, whole villages disappeared in some of the southern and midland counties. The village of Burghclere, in Hampshire, was reduced to about one-fourth of its size. What had been thriving agricultural villages were reduced to a few scattered shepherds' cottages, the cottages of the cultivators, who had been forced to leave, being allowed to fall into ruin. This depopulation of villages was described by many writers of the period. Sir Thomas More wrote: "Sheep have become the devourers of men . . . they unpeople villages and towns"; and again Crowley that

"Sheep have eaten up our meadows and our downs
Our corn, our wood, whole villages and towns."

The peasants who thus lost their livelihood were reduced to pauperism, and many who failed to find work elsewhere, turned beggars and vagabonds, if nothing worse. They did not submit without a struggle, however, and the first half of the sixteenth century was a period of great social disturbances in the country. Bands of villagers attacked the enclosures, pulling down and burning the fences. Riots frequently broke out between the villagers and the men hired by the landlords to protect the enclosures. Two serious revolts occurred, which were at least partly due to the enclosures. These were the Pilgrimage of Grace, which broke out in the north in 1536, and Ket's Rebellion in the east, in 1549. The resistance of the peasants was useless on the whole, although in some cases, especially in the eastern counties, it did prevent the enclosures from spreading as rapidly as they might have done otherwise.

The increase in sheep-rearing naturally benefited the woollen

industry, since a greater supply of raw material became available. Some of the peasants were fortunate enough to find work as spinners and weavers in the growing cloth industry. The enclosure movement also led to an increase in the size of farms. These farms were taken by men who had money to invest in the land, and thus capital began to play an important part in English agriculture.

THE GOVERNMENT AND ENCLOSURES.—The government could not remain inactive while changes of such importance were taking place in the country. The conversion of land to pasture, on a large scale, threatened to reduce the food supply of the nation. England was forced to rely for its corn, in the main, on the produce of her own soil. Imports, on any considerable scale, were difficult, if not impossible to get, owing to the imperfect state of shipping, and to the fact that European countries did not grow much beyond their own requirements. The great corn-growing districts of the New World were not developed until the nineteenth century. The government was therefore anxious to preserve a sufficient supply of arable land to provide enough corn for the population. A plentiful supply of food was the best safeguard against revolts, and these the government wished to avoid at all costs. The Tudors always aimed at popularity, and they were aware that this depended largely on remaining on good terms with the peasantry, who formed by far the biggest part of the population. The small farmers also contributed a good deal to taxation, and the danger of a decline in the revenue was a serious matter to the crown.

Therefore the Tudor government tried to prevent the enclosure movement, and gave its support to the peasantry against the landowners. Beginning in 1489, a series of acts were passed making it illegal to enclose land for pasture, unless a certain amount of land was kept in tillage. There were also clauses attempting to compel landlords to rebuild decayed cottages, and an act passed in 1580 required cottages to be built with at least four acres of land attached to them. It was made illegal for one person to keep more than two thousand sheep.

In estimating the position of the copyhold tenants, we must remember that their relations to the lord were governed by the

custom of the manor. Now custom, unlike law, is merely the unwritten practice of generations. Manorial customs differed from manor to manor, and were interpreted by the manorial courts. While the interests of lord and tenants were more or less identical, custom was an adequate safeguard for the village, but when they conflicted the interpretation of custom became all-important to the tenants. By the sixteenth century, the authority of the manorial courts had weakened considerably, and royal courts claimed jurisdiction over a much wider field than during the Middle Ages. They frequently interfered in the domestic concerns of the villages. If copyhold tenants, threatened with eviction, considered that the custom of the manor was not being observed, they had the right to appeal to the royal courts, and those who had the means (copyholders were often quite well-to-do) commonly did so. The courts, if appealed to, enforced the custom of the manor, and were on the whole sympathetic to the tenants in cases of doubt as to the validity of an order of eviction. But, unfortunately for the villagers concerned, appeal to law was an expensive and tedious process, and therefore was not as effective a safeguard as might have been expected. Petitions against evictions were sometimes forwarded to the courts by bodies of villagers, and the receipt of such a petition was usually followed by an investigation. If the custom of the manor had not been observed, the tenants were legally protected in their holdings. In 1517 Wolsey set up a Royal Commission to investigate the problem generally, and another was appointed by Protector Somerset (who was very sympathetic towards the peasants), in 1548. These commissions, however, had no material effect, although the investigations were thoroughly done in some districts.

But although the Tudors were, in general, sympathetic to the cause of the peasantry, it was found extremely difficult to carry out these measures for their protection. Landlords were permitted to allow their land to return to pasture if they claimed that the soil had been exhausted by years of corn-growing. The act against keeping too many sheep could be evaded by claiming that flocks belonged to the various members of the family. But the chief difficulty was, that the government did not possess enough paid officials to see that the acts were carried out. Thus

the Privy Council, which, in this century, was not only the advisory body to the crown, but also the body that was responsible for carrying out the laws, had to rely on local Justices of the Peace to see that the laws were obeyed. These J.P.'s were unpaid, hard worked, and most of them untrained in the law. They were usually appointed from the ranks of the country squires, and therefore they were inclined to sympathise with the landlords, while many of them had enclosed lands themselves. The consequence was that the acts against enclosure and depopulation failed to prevent these changes, although probably they would have occurred on a bigger scale than they did if these and the other measures had not been adopted.

LAND SALES AND SPECULATION.—Another important change that occurred was the buying and selling of land on a much larger scale than ever before. The chief buyers were the wealthy merchants, for whom there existed few opportunities in this period to invest their surplus wealth. There were no banks in the country, and, apart from trade, the purchase of land was the chief investment open to them. The ownership of land also carried with it a certain amount of social distinction, as it still does, and this in itself was a sufficient reason for the desire among merchants to become owners of country estates. At the same time the landlords, including the crown itself, were running into debt for two reasons. The rising prices of this century increased their expenses, and their adoption of town life made them more extravagant than formerly. They could not add to their incomes except by raising their rents. This was not always possible, as the rents in many cases could not be altered, owing to the agreements with their tenants, although, as we shall see later, rising rents was one of the causes of discontent during this period. But, in any case, even if they did raise their rents, the extra income thus obtained was more than balanced by the increase in their cost of living. Estates, or parts of them, were therefore frequently sold or mortgaged by the landlords in their attempt to escape from their financial difficulties.

THE DISSOLUTION OF THE MONASTERIES.—The amount of land on the market was enormously increased by the sale of confiscated

Church property, following the dissolution of the monasteries. The dissolution was part of the Reformation Movement, although the main motive which caused Henry VIII to suppress the monasteries was the desire to appropriate their wealth and great estates. There were over five hundred monasteries in England, and most of them were very wealthy. Their total income was estimated at about £160,000 a year, equivalent in modern money to nearly two million pounds. Most of the income was made up of rent, the monasteries owning hundreds of manors in different parts of the country. Some abbots were doing noble work by caring for the sick, relieving the poor, educating poor scholars, helping to maintain roads and bridges, and performing other social duties. But many of the monasteries had departed from the ideals of their founders, and not only neglected their duties, but indulged in lives of corruption, luxury and vice, which their wealth made possible. There was thus a great agitation for their reform, led by able preachers like Bishop Latimer, and when the government attacked the monasteries it received the full support of these reformers. The lesser monasteries were dissolved by act of parliament in 1536. The dissolution of the greater ones followed, and in 1540, the last abbey, that of Waltham Cross, was closed. The monks were forcibly disbanded, the buildings were plundered of their articles of value and allowed to fall into decay, while their wealth was confiscated by the crown. Some of it was used to establish new bishoprics, and a few schools, colleges and hospitals, but the greater part was turned over to the use of the crown. Henry might have converted the land into crown property, and been content with the income, but he elected to sell most of it. Thus there was a tremendous amount of land suddenly put on the market.

THE RESULTS OF LAND SALES.—The immediate result of these sales of land was a great transfer of property from one class, the Church and the older nobility, to another, composed mainly of the merchants. A new aristocracy was thus created, based on wealth made in trade. The new landlords cared very little for the customs and rights of the tenants. They naturally tended to regard their estates from the same point of view as their trading speculations, namely, as a means for making money. In spite of a clause in

the act of 1536 prohibiting conversion to pasture, a fresh impetus was given to this movement, since many of the merchant-landlords were directly connected with the wool and the cloth trades. The rents were raised, and a considerable number of tenants were forced to give up their holdings, because they could not meet their payments. Bishop Latimer complained that the rent of his father's holding was nearly quadrupled within forty years. All this increased the discontent prevailing in the country, and it is not to be wondered at that scenes of disorder, rioting, and revolt occurred among the peasantry.

AGRICULTURE UNDER THE STUARTS.—By the end of the sixteenth century most of the dislocation was over, and the country had become more accustomed to the changed agricultural conditions. The old manor houses were replaced by stately Tudor mansions, surrounded by private parks enclosed from the demesne land. On all sides the new country gentry adopted a more luxurious style of living than their predecessors. But the lot of many of the peasants had become permanently worse than that of their forefathers of the fifteenth century, particularly in those districts which had been swept by the enclosure movement. Enclosures continued during the seventeenth century, but, as a rule, they were not accompanied by the conversion of the arable land to pasture. The population was steadily growing, and the demand for corn was consequently increasing, especially in the towns, which were becoming more and more dependent on outside sources for their food supply. In London, the peasants and corn-dealers were guaranteed a minimum price for their corn, in order to encourage them to bring their supplies to the city. The price of corn rose steadily in these circumstances, and by the middle of the seventeenth century it was on an average three times its price at the beginning of the previous century. Corn therefore became more profitable to grow, and farmers had every encouragement to increase its cultivation. Land which had been converted to pasture previously was in some cases ploughed up again and devoted to corn-growing. An increased demand for agricultural labour resulted, and with increased employment, agricultural disturbances died down, although there were many complaints concerning the rising

prices, which pressed heavily on the poor. The government had often to intervene on the side of the peasantry. Attempts were made to fix prices and wages. Dealers in corn could be severely punished for holding up supplies from the market in order to increase prices by creating a scarcity. There were regulations preventing people from buying corn for the purpose of selling it again. Corn was to be bought for use of the purchasers only, and dealers were ordered to sell in small quantities to the poor. Granaries were provided by the municipal authorities in London for the storage of corn, the contents being brought to the market when any scarcity threatened to force up the prices. The example of London was followed by other towns, as in Reading, where a certain proportion of corn was set aside for selling cheaply to the poor, and again in Norwich, where the authorities made frequent surveys of the amount of corn in the city. If supplies ran short, immediate steps were taken to increase them. During James I's reign the suggestion was made for the government to build granaries all over the country, where corn could be stored during years of plenty, to meet the years when harvests were not so good. The expenditure involved was probably too great, and nothing was done in the matter. During the reign of Charles I the government remained very sympathetic to the poor, and at no time were the acts to protect the peasantry administered so effectively as during the years of Charles' personal rule. But, for the peasantry, the damage had already been done.

CHAPTER II

THE GROWTH OF INDUSTRY

TOWNS IN THE SIXTEENTH CENTURY.—Industry made such rapid progress during the sixteenth century, that England ceased to be an exporter of raw materials and the export of manufactured goods took their place. In consequence towns continued to develop, increasing in size and number, particularly after they had succeeded in gaining their freedom. Thriving villages also grew up where industry began to be of equal, if not of greater importance than agriculture. The growth of towns in turn stimulated internal trade. Towns began to rely more and more on outside sources for food to supplement their own produce, and they became dependent on an ever-widening market for the disposal of their own wares. Of all the towns in England, the growth of London was exceptional. Its population increased from about 60,000 to over 240,000 during this century, and the latter figure was five per cent. of the country's total population. Most of the other towns shared in this general growth, but on a much smaller scale than London. It is not surprising to find therefore, that they were faced with many serious problems, particular anxiety being created concerning the food and water supplies. It became necessary to send agents abroad frequently to purchase supplies of corn to be stored in municipal granaries. The possibility of sudden and severe food scarcity was a real one during this period for the whole country, but the danger was magnified in the case of towns. This accounts for the extensive regulations taken by town authorities to maintain an adequate food supply.

Care had also to be exercised regarding the water supply. London had long outgrown the capacity of its own well water, and surrounding villages on the Downs had long been complaining that their springs were diverted to supply London. The water

was led to the city by means of open conduits or sometimes pipes made of elm. At one time there were over four hundred miles of such conduits in the city. It was a serious offence to tamper with these, either by throwing rubbish into the open conduits, or to tap them. We read that in 1478, one "William Campion, a resident of Fleet Street" was caught filling his well from a conduit passing near his house. As a warning to other citizens against a similar offence, he was led on horseback through the streets of London, with a vessel shaped like a conduit suspended over him. Water was kept constantly pouring over him from this vessel, while the nature of his offence was widely published. The water scarcity grew so serious that, at the beginning of the seventeenth century, a new supply had to be brought from a place twelve miles away, in Hertfordshire. This was done by means of a canal constructed by a London goldsmith named Hugh Myddleton. It was a wonderful feat of engineering for the time, and it supplied sufficient water to Islington for the best part of a century. It was opened by the king in 1613, amid scenes of great pomp and rejoicing. Myddleton, by the way, had acquired his wealth by developing the lead mines of Cardiganshire.

THE WOOLLEN INDUSTRY.—By far the chief industry in England was cloth-making, which experienced continuous and rapid development from the middle of the fourteenth century onwards. In 1354, less than five thousand cloths had been exported from England. By the beginning of Henry VIII's reign the export of fine cloths alone had increased to eighty thousand, a figure which was doubled fifty years later. There were also considerable exports of coarse cloths. At the same time the export of wool rapidly declined, in spite of a considerable increase in sheep-rearing. In fact it became almost insignificant. Continental weaving centres turned to the use of Spanish merino wool, largely owing to the failure of supplies from England. Most of the cloth was exported in the undyed state, the continental cloth-workers being still ahead of this country in the finishing of cloth.

While almost every county manufactured some cloth, the principal centres were the eastern counties, Norfolk, Suffolk, Essex and Kent, and a group of counties in the west including

Devon, Somerset, Gloucester, and Worcester. A considerable quantity was also manufactured in Yorkshire, Hampshire, and Sussex. It was not only in the towns but also in the villages that the industry developed. In fact, as will be described later, there was a strong tendency for the villages to outstrip the towns, and the latter frequently complained of the competition of village industry. In Suffolk, for instance, the boroughs of Ipswich, Bury, Stowmarket and Sudbury became very prosperous, but their industry was rivalled by a great number of villages, some of which, like Lavenham and Long Melford, became as populous and wealthy as the towns. Magnificent churches were built at this time, from the gifts and endowments of wealthy clothiers. Many of these still remain as a striking testimony to the prosperity of this period. One clothier named Spring, of Lavenham, amassed a considerable fortune, and one of his descendants, Sir John Spring, possessed as many as eleven manors in 1549. Evidence of the increasing wealth of the clothiers appeared in their more expensive manner of living, in their Tudor mansions, and in their endowments of churches, schools, and colleges.

DECAY OF THE GILDS.—It was in the cloth industry that the craft guilds first decayed, at a time when they were strong in other crafts. Craft guilds were suited to industries that catered for local markets, when the master craftsmen worked, usually to order, for customers well known to them. When markets extended as in the case of cloth, to other countries, the trade had to be organised by people who specialised in it, and who had the capital to invest in it. The richer masters found it profitable to give up their work in the craft and to branch out into trade, acting as the links between the markets and the craftsmen. Some of them joined the trading companies like the Merchant Adventurers, while others drew together into the great Livery Companies, like the Drapers, the Merchant Taylors, and the Clothiers. These were interested, not so much in the standard of workmanship, as in the increase of the production of cloth, and in the profits of an expanding trade. The craft guilds had regulations concerning the standard of workmanship, the price of cloth, the wages of journeymen, and the limitation of numbers who sought admission to the craft. The merchants desired a cheaper and

more plentiful supply of labour than these regulations allowed, and consequently they broke away from the control of the gilds, and began to employ labour in the villages, which were outside the influence of the gilds. All these changes were taking place in the fifteenth and sixteenth centuries, with the result that the gilds connected with the woollen industry decayed rapidly, and a new type of organisation developed with the merchants as the centre.

THE DOMESTIC SYSTEM.—The system that followed the decay of the gilds has been called by various names, such as the "Commission System," or the "Putting-out System," but it is usually called the "Domestic System." The merchant became the middleman between the craftsmen and the markets. He supplied the raw material to the worker, who took the cloth back to him when finished, and was paid according to the work done. Sometimes the merchant also supplied the loom on which the cloth was woven. Although the craftsmen were independent to the extent that they worked in their own homes, they depended for their livelihood on the merchant for whom they worked. In order to escape from gild regulations and restrictions, merchants increasingly employed village labour, which, although not so skilled as the trained gild labour, was both cheaper and more plentiful. The village weavers usually had some land as well, and thus they were not solely dependent on weaving. In fact, industry in the villages was often a bye-employment, or a spare time occupation, for families who had small farms. The extra earnings helped many small farmers to extend their holdings and to buy pieces of land. The advantages of such labour were obvious to the merchants. They could employ more, or less people, just as the condition of the markets required. They were also saved the expense and trouble of providing a factory, and they could devote all their capital to financing the trade. There was little or no advantage in collecting workers into a factory, since there was no machinery, the spinning-wheels and looms being simple affairs worked by hand. There were however a few cases of great clothiers, like John Winchcombe and Thomas Blanket of Bristol, who had a large number of looms in one building. A rich clothier named Stump took over Malmesbury

Abbey in 1542, and "occupied much of it with looms for his weavers." But the factory system did not make any real progress until the age of machinery, which did not begin until the latter part of the eighteenth century. The domestic system bridged the gap between the gilds and the factories.

DECAY OF THE TOWNS.—So rapidly did this system develop that many towns like Norwich, Colchester, Coventry and Worcester, which were almost entirely dependent for their prosperity on the cloth industry, complained that their weavers were compelled to go to the villages in order to find work. The decay of the gilds was a serious thing for them, since the weavers were the principal contributors to the expenses of the municipal government and the *firma burgi*. Norwich complained, about the middle of the century, that its population was greatly reduced, its churches empty, and that grass was growing in the market-place. The government became alarmed, and attempted to arrest the movement. By the Weavers' Act, passed in 1555, weavers in the older towns were forbidden to possess more than two looms, and, outside the towns, more than one. The act did not apply to the north, nor to certain parts of the east of England, but in any case, it was found almost impossible to carry it out. The gilds were also given the right to exercise their power outside the towns, but this was also found to be impossible in practice. The older towns were powerless to prevent the progress of village industry, and the growth of new urban centres in the north and east, like Manchester, Huddersfield, and Leeds, in which gilds were non-existent. Here the cloth industry developed on capitalistic lines from the beginning.

THE NEW DRAPERIES.—The decay of some of the older boroughs was, however, arrested by the immigration into England, between 1565 and 1580, of thousands of weavers from abroad. They came mainly from the Netherlands, which belonged at that period to Spain. Philip's policy of overtaxing this prosperous part of his empire, and his attempt to stamp out the Reformation there, drove the Dutch and Walloons into revolt against him. The Duke of Alva, who was sent to deal with the trouble, adopted measures of such extreme cruelty that thousands

of the persecuted inhabitants fled from the country. They were welcomed in England, not so much out of sympathy for fellow Protestants, but because they were very skilled craftsmen, and thus valuable economic assets to the country. They were particularly skilled in the weaving of the finer fabrics, the worsteds, bays and tapestries, which were at that time completely beyond the skill of English weavers. By 1578, there were six thousand of these aliens settled in Norwich alone, and the city's trade and prosperity increased by leaps and bounds. It became the centre of the "New Draperies," as they were called, which more than compensated for the loss of the "Old Draperies." Colchester, the mayor of which reported in 1560 that the houses were standing empty for lack of tenants, also benefited by the influx of aliens, of whom in 1580 there were thirteen thousand resident in the town. Among other towns where the cloth industry was stimulated by these alien weavers, were Holstead, London, Stamford, Sandwich and Ipswich.

The Massacre of St. Bartholomew in 1572, drove thousands of Huguenots from France, and many of these were attracted to England, bringing with them their knowledge of various crafts, among which cloth-weaving was the chief. The cotton industry of Lancashire, and the linen industry of northern Ireland, probably owe their origin to the settlement there of groups of these skilled craftsmen during this period. Just as the coming of the Flemish weavers in the fourteenth century opened up a new epoch for the woollen industry in England, so did the coming of the Dutch, Walloon, and Huguenot immigrants during the sixteenth century. The new draperies soon surpassed the old in importance, and they added enormously to the prosperity of the country. The English woollen industry therefore owes much to the skill of foreign craftsmen driven out of their own country by religious persecution and the foolish policy of their rulers.

COAL AND IRON.—Mining became fairly important during the sixteenth and seventeenth centuries. Wood fuel began to grow scarce, and some of the bigger towns were compelled to turn to coal for domestic purposes. A certain amount of coal lying near the surface had been worked in previous centuries, but when London became a regular customer for considerable supplies of this fuel, coal-mining became an important industry,

especially round Newcastle. The coalfield was conveniently situated near the Tyne, and the coal was sent by sea to London. It was called "Sea-coals" for this reason.

The art of warfare underwent a change during this period owing to the invention of methods for casting and boring iron cannon. The manufacture of gunpowder was improved, and cannon balls made of iron replaced those of stone. These inventions produced a munitions industry, of which iron became the foundation. Iron was a very old industry. During the Middle Ages several towns, like Hereford and Gloucester, had their forges, while the trade of blacksmith was common to all villages and towns. But the industry, including mining for ores, made rapid strides during the sixteenth century. German mining engineers, who were the most highly skilled in Europe at this time, were attracted to England by letters patent from the crown, granting them a monopoly of mining in certain districts for a term of years. They brought bodies of skilled artisans with them, and they also trained English workmen in the arts of mining and metal work. It was thought necessary by the government to take these steps to encourage the iron industry in view of its importance for munitions purposes. Two important companies were formed, the Mines Royal, which had the monopoly of mining for ores in the north, and the Mineral and Battery Works, which had a similar monopoly in the south. The ore was smelted with charcoal and an enormous quantity of wood was therefore used in the course of manufacture. The great forest areas became the centres of the industry, the chief being the Weald of Sussex and the Forest of Dean, although most parts of the country had their forges and small foundries. Newcastle and Sheffield became famous for their manufactures of edged tools, and Birmingham for hardware. So quickly did the industry grow that the forests became rapidly depleted. It became necessary to preserve woods for shipbuilding and other purposes, and towards the end of the century the establishment of new ironworks within six miles of the coast was forbidden by law. Experiments were made to substitute coal for smelting, but, although an iron-master named Dud Dudley claimed to have succeeded, his method was not adopted. Owing to the scarcity of fuel the industry did not develop, and probably even declined during the seventeenth

century. Further progress was not made until the method for smelting with coal was discovered in the eighteenth century.

SHIPBUILDING.—Shipbuilding made an important advance during this period, especially in the ports along the south coast, like Rye, Hastings, Portsmouth and Plymouth. The longer voyages which followed the discoveries, required bigger and stronger ships, while the increase in foreign trade called for more ships. The government encouraged the industry by paying bounties on the construction of ships over a certain tonnage. A flourishing shipbuilding industry meant greater security, since merchant ships formed the bulk of the navy, the ports being required by law to supply and equip vessels in time of need.

CRAFTS.—In addition to these important industries there were scores of crafts in the towns, each represented by its own craft gild, except in cases where a number of crafts amalgamated to support a common gild, when the numbers of craftsmen were not sufficient to maintain independent gilds. Some gilds remained fairly powerful until the inventions of the industrial Revolution replaced the products of the skilled craftsmen by machine-made goods of the factories. All towns had their leather-makers, saddlers, shoemakers, millers, bakers, brewers, smiths, wheelwrights, carpenters, builders, locksmiths, lorimers and other trades.

ECONOMIC NATIONALISM.—The growth of industry, the widening of the market, and the increasing power of wealthy merchants and manufacturers, combined to change the conditions of life in the sixteenth-century towns. Industries, particularly that of cloth, ceased to cater for the local market and began to depend upon foreign trade. This brought greater opportunities for expansion and for the accumulation of wealth, but the craftsmen lost that feeling of security which they had possessed formerly. When conditions in the foreign markets were peaceful and prosperous, trade was brisk and employment steady. But any change in these conditions, produced by war or other disturbances, immediately affected trade, causing industrial depression and unemployment in England. Craftsmen no longer

worked for themselves, but their livelihood began to depend on wealthy masters who employed them, and on wealthy merchants who so'd their goods. The trade barriers which had formerly existed between the towns were almost completely broken down. Towns had to look beyond their own boundaries for their food supplies and for their markets. They could no longer live to themselves as in the Middle Ages. Boroughs that did not move with the times were left behind, and their inhabitants had to migrate elsewhere to find employment. Those towns prospered and grew, that opened their doors to alien craftsmen, that freed their trade from local restrictions, and that regarded themselves, not as little self-governing, self-sufficing units, but as parts of that bigger unit, the country as a whole. England became a nation in the economic sense during this period, not merely a collection of towns and villages.

CHAPTER III

TRADE AND COLONISATION

THE ALIEN MERCHANTS.—We have already seen that during the Middle Ages, English foreign trade was controlled mainly by alien merchants, and that in commerce, England was far behind the cities of the Mediterranean and Germany. But English merchants were gradually accumulating capital and undertaking trading ventures, modelling their methods on those of the aliens. Already, by the beginning of the sixteenth century, the power of the latter was declining, while English trading companies were undertaking a growing part of the country's trade. The position of the aliens in England became rapidly weaker during the sixteenth century, while that of the native merchants became supreme. The Turkish invasions crippled Venetian trade, and the last of the "Flanders Galleys" left for England in 1532, although some Venetian merchants continued to trade individually, without the support of their government. The trade of the Hanse League suffered from the same cause, as the Hansards had depended largely for their prosperity on distributing the luxury goods of the East to the north-western European countries. During the reign of Henry VIII, the privileges of the Hanse League were taken away, and their depôts in London, Boston, and Lynn were closed. Mary restored their privileges. The London Steelyard was re-opened, but those at Boston and Lynn remained closed. The trade continued to go against them, however, and after the defeat of the Armada in 1588, Elizabeth finally ordered the expulsion of the Hansards, who were charged with assisting Spain against England with money, men, and ships. The Steelyard was permanently closed in 1592. Their commerce had also declined in the rest of Europe, and many of the merchants gave up trade, turning instead to banking. Some of them, like the Fuggers, became the greatest bankers on the Continent.

ENGLISH COMMERCIAL EXPANSION.—The opportunities for English merchants to increase their trade did not result solely from the commercial eclipse of the aliens, but also from the progress of the cloth industry, and from the advantages derived from the discoveries. The alteration of the trade routes gave England a favourable position for world trade, from which, sooner or later, the merchants were bound to benefit. In the competition for new routes, the most powerful rivals had been removed. Of the two important early English companies, the Staplers steadily declined, owing to the decrease in the exports of wool and other raw materials. The Merchant Adventurers on the other hand forged ahead rapidly, extending their trade not only with the Baltic countries and with France and Germany, but also with Spain and the Mediterranean countries. They received valuable support from Henry VII, who granted them an important charter in 1505, confirming their monopoly of the cloth trade, allowing them to elect their own governor, and sanctioning their regulations. Henry also restored the important trade with Flanders by the *Magnus Intercursus*, and entered into an agreement with Venice, by which English merchants were not to be molested in their Mediterranean trade. Hitherto, the Merchant Adventurers had been confined to London, but towards the middle of the century, companies of Merchant Adventurers were established in other towns, notably at Bristol and Newcastle. By the end of the century, their secretary Wheeler, who wrote their history, claimed that there were more than three thousand merchants in the various groups of the company.

• JOINT STOCK COMPANIES.—Progress in commerce was not confined to the older companies. Profits made in the cloth industry and trade helped to finance ventures into new markets, especially from about 1550 onwards. At the same time new forms of commercial organisation were growing up, such as the Joint Stock Company. This type of organisation developed alongside that of the regulated company to meet the requirements of distant trade. The latter was merely a gild adapted for trading purposes. It claimed a monopoly within its sphere, only members being allowed to participate in the trade. Membership was conditional on paying the usual entrance fees and contribu-

tions, and observing the regulations of the company. The members traded on their own account. This form of association was suitable for trade with countries relatively near England, but, with a few exceptions, merchants were not individually wealthy enough to finance more distant trade. For this purpose the joint stock company came into existence, a form of organisation that enabled capital to be pooled. At first, only single ventures were financed in this manner, the capital and any profits made being distributed among the members at the end of the venture. But it was a departure from individual trading, since the venture was conducted by the company as a body, the ships being bought or hired and the mariners and agents being employed on the basis of a contract with the company. Experience such as that of the East India Company disclosed the weaknesses of the method of financing single ventures, particularly the difficulty of maintaining continuity in the trade. After an intermediary stage of financing a group of ventures as a unit, the continuous joint stock company came into being, by which capital was subscribed as a permanent investment, and members received dividends periodically from the profits made. In the case of the East India Company, the first to develop along these lines, the transition was complete by 1660. The regulated companies survived alongside the new type, but the joint stock form gained ground rapidly in the seventeenth century, and finally superseded the other as the usual form of company organisation.

THE RUSSIA COMPANY.—The first of the new ventures was the Russia Company. In 1553, three ships set out to discover a new route to India round the north of Europe. Two were lost in the ice, but the third, under the command of Chancellor, succeeded, in reaching Archangel, the explorers then proceeding overland to Russia. They were able to obtain trading concessions from the Czar, including a monopoly of trade with Russia by the Archangel route. Sebastian Cabot became the first governor of the company, which began to conduct a thriving and prosperous trade, taking out chiefly English woollen goods, and returning with the commodities of the north, which were greatly in demand in England. These goods included the various stores

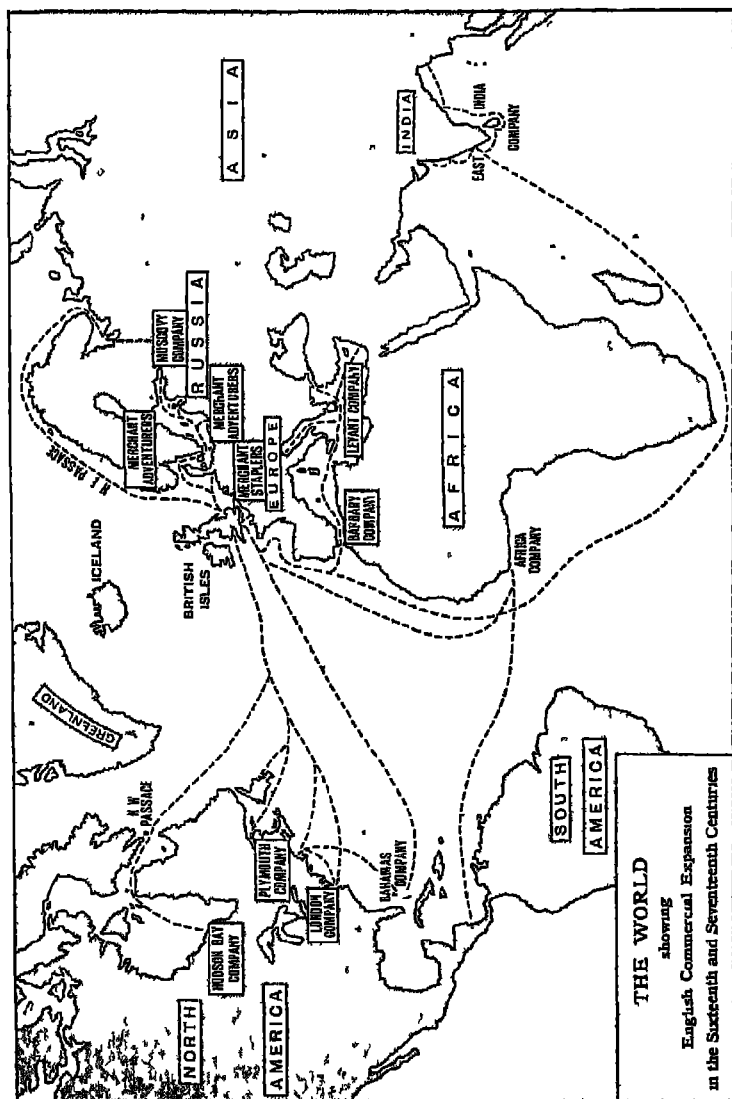
used for shipping, like masts, spars, tar, rope, hemp and sail-cloth, together with oils and wax (which for a time this company only was permitted to take out of Russia), skins, furs, and sometimes corn. The route *via* Archangel was very dangerous, and severe losses were occasionally experienced. When Narva was taken by the Russians, a shorter and safer route was opened, and the older route was gradually abandoned. The company continued to explore this region and succeeded in reaching Persia by way of the Volga and the Caspian Sea. This route was used to bring Eastern goods to England until 1581, when the Levant Company captured the trade, leaving the Russia Company with its original trade. In common with all English companies, this company was extensively damaged by the Civil War, and when Charles was executed, the English merchants were expelled from Russia by order of the Czar. They returned however in 1660, but failed to regain their special privileges. They had to compete on equal terms with the merchants of other countries, of whom the Dutch were by far the strongest at this time. But it still remained a fairly profitable trade, apart from occasional setbacks, due to bad management and losses at sea, and it played an important part in the development of English commerce.

THE AFRICA COMPANY.—A group of merchants from Southampton began trading with Africa in 1540, and in 1553 a company was formed. It traded for years without a charter or monopoly. The Portuguese tried to prevent other traders from reaching Africa, and this added to the perils of the trade, especially with the Guinea Coast. From this region considerable quantities of ivory were obtained, together with spices and small quantities of gold. The climate was very unhealthy for white traders, and owing to this, merchants tried to complete their dealings in as short a time as possible, during the cooler months. As the company did not possess a monopoly of the trade, they could not prevent private English traders from entering their territory. In 1562, Sir John Hawkins took the natives by surprise, and captured three hundred negroes. He sold these in Spanish America as slaves, and finding it profitable, he made further attempts to capture natives. Considerable hostility was thus aroused against all English traders, the natives distrusting them.

The trade became so difficult that it had to be abandoned in 1567, and it was not revived for another twenty years. During the seventeenth century, gradual progress was made, although the trade was interrupted several times by serious losses. In 1660, a new company was incorporated under the name of the Royal Africa Company, which did a great deal towards the expansion of English trade in these regions. Although it continued to deal in small quantities of gold and ivory, the capture and sale of slaves was by far its chief activity.

THE LEVANT COMPANY—In 1581, the Levant Company was founded to carry on trade with the Mediterranean lands. This trade was popular in England, because the company exported English woollen goods, and imported the much-desired Mediterranean fruits, currants and wines. English merchants had been engaged in this trade for some time before the company was formed, and their position was strengthened by the commercial decline of Venice and the other Mediterranean cities. Elizabeth herself was interested in the trade, and lent the company £40,000 from the proceeds of one of Sir Francis Drake's expeditions against Spanish treasure vessels. Work of discovery was carried on by this company, and Persia was reached by a caravan route, which passed south of the Caspian Sea, meeting the route used by the Russia Company. The Levant Company was better placed than the latter for the Eastern trade, and imports of drugs, spices, silks, perfumes, oriental carpets, and other products were added to their trade. Twenty years after its foundation, the East India Company came into existence, and the Levant Company lost this branch of its trade.

THE EAST INDIA COMPANY.—The greatest of the English trading companies was the East India Company, promoted to open up direct trade between this country and the East. For nearly a century Portugal had been in control of the all-sea route to India, discovered by Da Gama. The Eastern trade had thus been organised by Portuguese middlemen, but Dutch and English merchants had their permanent quarters in Lisbon, doing much of the distribution of these goods. There was an international understanding that discovery carried with it the right of possession,



and so the Portuguese monopoly was respected by the other commercial powers. In 1580 the crowns of Spain and Portugal were united. At that time Spain was at war with Holland, and one of Philip's first acts was to order the expulsion of the Dutch merchants from Lisbon. This threatened to cut them off from what was a very profitable branch of their trade, and thus they decided to invade Portugal's monopoly and discover the source of the spice trade for themselves. The Dutch Government gave the project its full support, regarding it as a part of their war with Spain. The relations between England and Spain were also strained and in 1587 war broke out. After the defeat of the Armada in 1588 England had no longer any reason to fear Spain, and the establishment of direct trade with the East received government support. The Dutch found the route first but were soon followed by the English. By the end of the century the all-sea route was no longer the secret of Portugal.

The East India Company was established in 1600, and received a charter from the crown granting it important privileges and a monopoly of the trade. The combined efforts of the Dutch and English undermined the position of Portugal, whose commerce with the East rapidly dwindled. Portuguese merchants were finally driven out of the trade after the capture of Ormutz in 1612. A rivalry then began for the possession of the Spice Islands between Dutch and English merchants, the former gaining the ascendancy. In 1622 the Dutch captured the island of Amboyna and the English merchants resident there were massacred. This weakened the position of the East India Company so much in the island trade that they began to concentrate on the mainland. A line of forts and factories was established along the coast, Surat in 1609, Madras in 1639, Hooghley in 1650, and Bombay in 1665. These became the centres of the Company's trade with native merchants and princes.

Apart from the commercial rivalry and the losses in the East itself, the Company's early history was one of constant struggle against adverse conditions at home. It was the original intention of the merchants interested to organise the trade as a regulated company, but this was discarded in favour of a joint effort. Subscriptions were invited from members, and from the joint pool a venture was financed in 1600. The expedition

returned in 1601, and was a great financial success. The members who had participated shared in the distribution of all the proceeds and another venture was financed. This method continued until 1612, but events had by no means run smoothly. For instance, in 1605, three separate ventures were operating at the same time, with their agents competing against each other in the East. This created needless difficulties for the Company. Success in financing each venture also depended largely on the results of the previous one, and if an expedition failed, as in 1604, capital for the next was difficult to obtain. The trade further required the expenditure of considerable sums of money in buying privileges from princes and for protecting the establishments in India. In 1612 the financial organisation was modified owing to these difficulties, and a group of ventures extending over a period of three or four years was made the unit. This led to greater stability, and risks were spread. But the new method still suffered from the defects of the old to a somewhat lesser degree. Permanent investments in the form of big ships, fortifications, and the purchase of trading privileges became increasingly necessary, particularly when the trade was concentrated on the mainland. In 1657 the whole organisation was changed to that of a continuous joint stock company, the capital being permanently invested and profits only being distributed in the form of periodic dividends. Members who wished to withdraw from the trade were either bought out by the Company at the previous valuation of their shares, or they sold their shares privately with the consent of the directors.

The Company was very unpopular at home. It did not export English cloth and its trade appeared to bring little economic benefit to the country. It exported, instead, precious metals, which was contrary to all mercantilist ideas, and, to make matters still worse, it imported luxuries. The ships also could never be relied upon to assist in defending the country as they were absent for the best part of the year. In addition, the voyage to India was perilous and considerable losses were experienced in men and ships, not merely due to storms but mainly to the attacks of pirates, who sold into slavery the English mariners whom they captured. It is interesting to note that the Company provided for the wives and children of those who were

lost in its service, and on one occasion, early in its history, a thousand widows petitioned parliament against the suppression of the Company, as they feared the loss of their pensions if that were done. On the occasion of the Amboyna massacre, the directors appealed to the crown for support against the Dutch, but James I, whose policy was averse from war, contented himself with a letter of protest. The Company eventually got compensation in 1654, at the conclusion of the war between Cromwell and the Dutch.

In the meantime the loss of the Spice Islands was disastrous for the Company. The mainland trade was more difficult to establish and was far more risky. Transport difficulties were almost insuperable, and the maintenance of fortifications became a serious drain on the Company's resources, while sanction from the native princes to trade in their territory could only be purchased by expensive gifts. The necessity for this expenditure was one of the Company's chief grounds of defence for its monopoly. Charles I damaged it by chartering a rival company in 1633, and by seizing a cargo of pepper for which payment was never made. During the Civil War the ships took sides and the trade was almost ruined. This was the common experience of all trading companies during this period. Conditions were such in 1652 that the directors were only prevented from selling the Company's interests for the nominal sum of £14,000, by the intervention of the general body of shareholders. From that date matters improved. The compensation got from the Dutch helped a little towards recovery. In 1656, Cromwell, to whom the Company had appealed for support, renewed their charter after a committee of investigation had reported in favour of this. But the renewal was conditional on the Company assuming the continuous joint stock form of organisation. Its position steadily improved, and after the Restoration it was further helped by the acquisition of Bombay, which was sold to the directors for a nominal sum by Charles II. Its subsequent history falls within a later period.

In addition to these important trading companies, trade was developed with other regions including Spain, North Africa, and Greenland, while an extensive trade existed between England and the Spanish colonies in America, although attempts were

made by Spain to prevent this. English merchants also invested money in expeditions to find treasure, many of these being in fact pirate raids on Spanish treasure vessels. Sir Francis Drake was the most successful of these raiders, and at times, considerable quantities of gold and silver came to England as the loot from these expeditions, although English shipping suffered great losses at the hands of the Spaniards.

EARLY COLONISATION.—During this period the foundations of the British Empire were laid. The discovery of the New World diverted England's attention from European conquests to the possibility of expansion in the West. Voyages of discovery were fitted out, and schemes for the settlement of new lands were projected. These depended for financial support on the merchants, who invested money in them as ordinary commercial ventures, hoping to secure, not only the return of their investments, but handsome profits as well. Thus colonisation developed as an offshoot of trade, the funds coming from profits made in trade, and the motive being supplied by the desire for further commercial expansion. Sir Walter Raleigh attempted to colonise Virginia in 1583, but the attempt failed, largely because the settlers went out in the hope of finding gold and were not prepared to face the hardships of agricultural life there. He made another attempt in 1603, but this met with a similar fate. At the same time, Newfoundland was settled by colonists who devoted themselves to agriculture and fishing, the latter becoming rapidly the chief occupation of the settlers.

THE NEW ENGLAND STATES.—The work of colonisation received every support from the crown, charters being readily granted conferring a monopoly of trade with the new lands on groups of merchants who were prepared to finance the schemes. In 1606, a real beginning was made by the foundation of the London Company and the Plymouth Company for colonising and developing parts of the New World. The former was given a strip of territory along the coast corresponding to modern Virginia, while the latter was given a similar strip north of this, both being free to penetrate inland. Each company took out about five hundred colonists, who experienced enormous hardships,

The forests had to be cleared to make room for cultivation, and within a few years their numbers were greatly reduced by disease and famine. To make matters worse they had to defend themselves against the hostile tribes who inhabited the territory, and although agreements were sometimes made with these tribes, whole villages were occasionally surprised by the natives and massacred. The London Company established Jamestown in 1607, and this became the centre of gradual development in the region. The tobacco plant was cultivated and attempts were made to grow spices. The former became the staple product, England providing the market, while foodstuffs and manufactured goods were imported from the mother country. The venture was not successful from the commercial point of view, and in 1624 the company went bankrupt, Jamestown becoming a crown colony. But the colony steadily prospered, and by 1640 its population numbered nearly five thousand, including the whites and slaves.

The Plymouth Company passed through somewhat similar experiences. Its chief difficulty was to get an adequate supply of settlers. The landing of the Pilgrim Fathers within its territory in 1620, proved a welcome addition to its numbers. The whole venture was a failure financially, and the shareholders were glad to dispose of their rights to the colonists in 1627, for a small sum. The subsequent development of the colony was along entirely different lines from those of the southern group. In Virginia and the West Indies, large plantations, organised by gentlemen planters, and worked by slaves and indentured labour, became the rule, while the northern colonists went in for subsistence farming. Small homestead farms were granted to settlers for their own cultivation. Thus in the south, the population was divided into an aristocracy of planters and a servile class of labourers: whereas in the north, there was more or less equality, the population consisting mainly of small landed proprietors. Tobacco and sugar were the main products in the south; wool, corn and fish were those of the north. It was natural for trade to grow up between these two groups. The abundant supplies of timber available in the north also led to the development there of a shipbuilding industry early in its history and the shipping interests were naturally keen to capture the carrying

trade with the south. This became the subject of much complaint from the shipping interests at home. Incidentally this indicates the rivalry between the mother country and the northern colonies from the beginning.

Fresh settlements were made by the colonists themselves and also by new ventures financed from home. Of the latter there were two main types, the proprietary colonies, originating in grants of tracts of land to individuals, usually court favourites, and the chartered company colonies, originating in grants of trading privileges to companies. For instance, Nova Scotia was founded by Sir W. Alexander in 1621, Guiana by the Duke of Buckingham, Antigua by the Earl of Carlisle, and Trinidad by the Earl of Montgomery, all in 1627; Maryland (as a retreat for Roman Catholics) was founded by Lord Baltimore in 1632. Examples of the chartered company colonies have already been given: others include the Bermudas in 1614, Massachusetts in 1629, the Bahamas in 1630, and the Hudson Bay in 1670.

The establishment of new settlements by the colonists themselves was often the result of the expulsion of individual dissenters from the Puritan colonies of the north. (The Puritans were intolerant of any religion other than their own.) Rhode Island was founded by Roger Williams in 1636 (with religious freedom as its basis), Portsmouth and Newport by Ann Hutchinson in 1637; while a later example is that of Pennsylvania, founded by William Penn in 1682. By 1640 the northern group contained over five thousand inhabitants scattered over a wide area.

Between 1640 and 1660, the flow of people to the New World was increased by the political events at home. The Puritan emigration had been particularly active during the period of the personal rule of Charles I, but after the meeting of the Long Parliament this suddenly ceased. The Puritans were now too much occupied with affairs at home and with the conflict with Charles, to leave England; but after the Restoration there was a fresh impetus to their emigration. They went in the main to the United States of New England, an association formed in 1643 between Massachusetts, Plymouth, Connecticut and New Haven. At the conclusion of the Civil War there was a considerable exodus of royalists, mainly to the southern colonies, Virginia, Carolina, Maryland and the West Indies. Cromwell's conquest

of Ireland was followed by the transportation to the colonies of thousands of Irish people. They were sent out as indentured labourers, mainly to the southern colonies. In addition to these it was a fairly common practice to transport criminals to the colonies; and paupers were frequently assisted by government and parish grants to found homes in the New World.

Thus the first half of the seventeenth century may well be called an age of expansion, both colonially and commercially, these two being more or less closely connected. In addition to the various settlements on the mainland of America and in the West Indies, the Africa Company possessed settlements in Gambia (1631), the Gold Coast (1660), and Lagos (1661); while the East India Company had their settlements on the mainland of India. Jamaica was captured by Cromwell from the Dutch in 1655, and New York, a settlement founded by the Dutch under the name of New Amsterdam, was obtained by an exchange with the Dutch for some captures in the East Indies, in 1664.

By 1660 the foundations of the British Empire had been laid, and the activities of English merchants were world-wide in scope.

CHAPTER IV

THE MERCANTILE SYSTEM

THE BULLION THEORY.—The wealth that poured into Spain from the New World aroused the envy and jealousy of the other European countries. Spain had been a poor and backward country, until the strong rule of Ferdinand and Isabella restored a settled form of government, and united the different parts of the country under the crown. During the sixteenth century, Spain developed into the most powerful country in Europe, her armies being considered the finest in the world, while the navy sent against England was known as the "Invincible Armada." Her sudden rise to power was believed by contemporaries to be due mainly to the bullion she acquired, and consequently, the accumulation of treasure became a supreme object among the nations of Europe. Bullion was considered to be the basis of national greatness, the "sinews of war," and the chief form of wealth. England shared in this general belief, which, in fact, was quite natural to an age when gold and silver had been so scarce, that there was not sufficient even to provide for currency purposes. Thus measures were devised by statesmen to protect the store of bullion in the country, and to attract fresh supplies. Attempts by English explorers to discover gold-mines failed, and thus bullion could only be acquired in the course of foreign trade.

During the sixteenth century the narrow view prevailed that almost the sole object of foreign trade was to get bullion. Trade with countries like Spain and America, which had treasure to pay for goods, was encouraged while trade with countries like France and Holland, which had themselves to trade for bullion, was discouraged. This view did not prevail long, however. Writers began to point out that the precious metals were not so important as was generally believed. A country's wealth really consisted of its natural resources, its food supply, the fertility of

the land, and money was only a medium by which goods were exchanged. If the supply of bullion increased, its value was lowered, like everything else, and people required more of it in exchange for goods. Thus prices rose and the country was not really any better off. Bullion is, of course, essential for currency purposes, and as it can be easily stored, it enables wealthy individuals to accumulate capital ; but goods are the real wealth of a country.

THE BALANCE OF TRADE THEORY.—By the seventeenth century the Bullion Theory was replaced by the Balance of Trade Theory, largely owing to the experience gained during the previous century, and to the practical needs of the merchants. The export of bullion was prohibited by the Tudors, but when the East India Company began trading, they were given special permission to take bullion to India, on condition that, as a result of the trade, more would be attracted to England than was taken out. The merchants pointed out that gold and silver were almost the only things which India wanted from England, but by selling the Eastern produce in European countries, the trade of England would be increased, and thus indirectly bullion would enter the country. If the value of the exports was greater than that of the imports, the difference would be paid for in bullion. Supporters of this theory thus emphasised the importance of trade, the necessity for encouraging exports and cutting down imports, and the need for stimulating the internal resources of the country, both agricultural and industrial, while shipping should receive special attention. Partly owing to the fact that statesmen believed that these objects could not be attained without the support of the government, and also because the government thought it was justified in directing the economic life of the nation into certain channels, a whole series of measures were passed which attempted to control agriculture, industry and trade. These laws make up what is usually called the Mercantile System, and they represented the general policy of successive governments from the sixteenth to the beginning of the nineteenth century.

(a) AGRICULTURE.—We have already seen that the government took active steps to prevent the agricultural changes of the

sixteenth century, although they were not successful. The mercantilists regarded imports of food from foreign countries, even if possible, as being highly dangerous to the country. The only safeguard against famine, especially should a war break out, was an agricultural system capable of providing for the entire needs of the country, and thus corn-growing in particular was essential. In order to protect the farmers, imports of corn were prohibited, when the price was below a certain minimum fixed by law. But ~~to safeguard the country against famine, exports of corn were not permitted except when prices in the home market were depressed by a glut, due to an exceptionally good harvest.~~ As prices continued to rise during the sixteenth and seventeenth centuries, these laws had to be revised periodically, and the minimum prices had to be raised to conform to the average price of the period. The price limit in 1550 was 6/8 per quarter for wheat; in 1600 it was 20/-; while in 1660 it was raised to 40/-. By this time a more definite policy of protection for the farmers had been adopted. It was considered a sufficient safeguard for consumers to encourage producers to grow as much corn as possible. Between 1660 and 1689, laws were passed subjecting imports of corn to duties, which were high when prices were low, moderate when they were normal, and low when they rose above a certain level. The export of corn was also encouraged by the Corn Bounty Act of 1689, which authorised the payment from public funds of a bounty of 5/- on every quarter of wheat exported, when the price was at, or below, 48/- per quarter, other grain receiving smaller bounties.

The object of these laws was to guarantee the home market for the English farmers, except when real scarcity existed, and to promote exports as much as possible when a surplus occurred. Thus it was hoped to keep England self-sufficing and independent of foreign countries for her food supply.

(b) INDUSTRY.—We have seen that the guilds in the sixteenth century were becoming exclusive in character, and in the case of the cloth industry they were losing their control of the crafts by the spread of industry into the villages. The craft guilds had been very valuable agents for promoting the growth of industry, but when they sought to restrict their membership by heavy

entrance fees and other methods, they became obstacles to further expansion. When the towns which depended on the cloth industry were threatened with decay, owing to the competition of village industry, the government, as we have seen, attempted, by the Weavers Act, to prevent the movement, largely because they contributed considerably to the crown revenue. Had this attempt succeeded, the growth of the woollen industry would have been impeded. On the other hand the government was anxious to promote the growth of industry, to provide more employment for the people, and to increase the prosperity of the country. The crown hoped to benefit by increasing the revenue. Thus steps were taken to control the gilds. In 1504 an act was passed requiring them to submit their regulations for approval to justices, who could refuse to ratify any regulations they thought unreasonable. In 1537, the government laid down maximum entrance fees for membership: 2/6 for an apprentice, and 3/4 for a journeyman. In practice, it was found almost impossible to enforce this measure. The power of the gilds was greatly reduced in 1547 by the confiscation of that part of their property which was devoted to religious purposes. The motives for this act were similar to those which led to the confiscation of monastic property, but it showed the increasing power which the government had obtained over the gilds. The purely religious and fraternity gilds disappeared as a result of this act, but of the craft gilds, only those were affected that had been left property by members to carry out certain religious and social duties, like the maintenance of a priest, or conducting religious services on the anniversary of the death of a member. Their industrial functions were left untouched, and the London gilds were even able to buy back their confiscated property from the crown.

By the famous Statute of Artificers passed in 1563, the government attempted to establish a uniform industrial system over the whole country. It contained numerous clauses, but the two principal ones were that admission to all existing crafts was made subject to a seven years' apprenticeship, and J.P.'s were given the power of fixing wages. By this act the control over industry hitherto exercised by the gilds passed over to the government, although, as most of the clauses were based on previous gild

practice, no violent changes resulted, and the guilds assisted in the administration of the measure. It remained on the Statute Book until 1814, but long before that it had become a dead letter. Even in the seventeenth century, it was deemed unreasonable to enforce seven years' apprenticeship for some industries, which, in consequence, openly disregarded the regulation. By the end of the century the law courts held that it applied only to those industries which were in existence when the act was passed, and even in these cases, its operation was confined to the older boroughs. New industries were exempt, as were also all industries in the villages and new urban centres.

The encouragement given by the government to the immigration of alien craftsmen into England was inspired partly by mercantilist motives, although the aliens usually left their own country, not because they were attracted by promises of rewards, but for reasons of persecution. We have seen that the Walloons were driven out of the Low Countries by Alva's troops, but they were welcomed in England, and their settlement here brought rapid progress to the textile industry. The woollen industry received very privileged treatment from the government. Normally, cloth had to conform to certain standards of length and width, but the alien craftsmen were allowed full liberty to vary from these conditions, and to produce cloths according to their own standards. In order to protect the home supply of wool, a heavy tax was imposed on its export, which was completely prohibited from the beginning of the seventeenth century. The excise on home cloth was only about two per cent., while imported foreign cloth was subjected to a heavy tax, and attempts were made to prohibit its import.

There was one attempt in the reign of James I to force merchants to export only finished cloth, much of the cloth at this time being exported in the undyed state to be finished in Holland, where craftsmen were highly skilled in this art. The attempt was a complete and costly failure, producing great depression in the cloth industry. Holland prohibited the import of finished cloth from England, and when James was forced to give up the experiment, the trade with Holland, even in unfinished cloth, was greatly reduced, because weavers there had increased their own supply of cloth in the meantime.

(c) **TRADE.**—Since the chief object of the Mercantile System was to stimulate exports and to reduce imports to the minimum, trade occupied an important place in the doctrine. Mercantilists regarded trade as a constant struggle between the nations, where one party gained and the other lost. It was not realised until much later that trade enabled a country to acquire those goods it could not produce to advantage, by exchanging for them its own surplus products, an exchange by which both parties benefited. The mercantilists looked upon imports of raw materials with favour, but condemned imports of luxuries and manufactured goods. Similarly exports should consist of manufactured goods, not raw materials, to ensure a favourable balance of trade. They also stressed the importance of encouraging English shipping, not merely in the interests of trade, but to increase the naval strength of the country. For this reason steps were taken to stimulate fishing, which would give employment to shipping, and provide valuable training in the art of navigation. The eating of fish on certain days of the week was made compulsory. When the forests were threatened with denudation by the iron industry, those near the coast were reserved by law for shipbuilding, while attempts were made to force people to plant trees to replace those cut down. Bounties were also paid on ships built over a certain tonnage, and in order to ensure an adequate supply of materials like masts, spars, tar, rope, and sailcloth (for shipbuilding), the import of these goods was specially favoured.

THE NAVIGATION ACTS.—Among the most important of the mercantilist measures were the famous Navigation Acts, which were attempts to reserve English trade for English ships. The earliest of these measures was passed in 1381. The Tudors tried to develop the system. But the policy was at first only partially successful owing to the insufficiency of English ships and to the granting of licences by the crown to evade the acts. The Tudors taxed goods imported in foreign ships more heavily than those imported in English ships. The first important Navigation Act was passed in 1651. During the Civil War, English trade had suffered enormously, and the Dutch, who were the greatest merchants of the period, had captured many of the English

markets and much of the carrying trade. This act was an attempt to restore English trade, and in particular, it was aimed at the Dutch commercial power. All goods coming into England from Europe were to be imported in English ships, or in those of the country exporting the goods. Trade with Asia, Africa, and America was to be confined to English ships, although, to conciliate the colonies, their ships were to be treated as English. This act was one of the chief causes that led to war with Holland in the following year, and the success of England was followed by the continuation of the policy. On the restoration of Charles II, in 1660, the act was renewed with additional clauses. The ships were to be English built, and three-fourths of the crew, in addition to the captain, were to be English. These acts remained on the Statute Book until 1849.

THE OLD COLONIAL SYSTEM.—Colonial policy, as might be expected, was moulded on mercantilist principles, and special regulations, called by historians "The Old Colonial System," governed the relations between the colonies and the mother country. The colonies were expected to contribute towards the welfare of the mother country, to provide markets for her goods, to supply her with raw materials, and to avoid competition with her industries. Colonial trade was regarded as a preserve upon which foreign countries must not encroach. In return, England undertook to defend the colonies and to assist in their economic development so long as they did not compete with home industries. This attitude was not peculiar to England. Every nation that possessed colonies took up the same, if not a more extreme attitude. Spain, for example, absolutely prohibited any commercial intercourse between her colonies and other parts of the world.

In their early history, the colonies were not important from the commercial point of view, and their distance from England, combined with the imperfect means of transport of the period, made trade exceedingly difficult. But, as they developed internally and increased in population, they became more and more important as markets and as sources of supply of raw materials. Colonial trade was included within the scope of the Navigation Acts, in which there were special clauses dealing with

it. In the act of 1660, certain commodities, including tobacco and sugar, could only be exported to England; but in the colonial interests, England prohibited the importation of similar commodities from other countries. Subsequently other commodities were added, for instance rice and naval stores in 1706. These were called the "enumerated commodities." The Staple Act of 1663 extended the principle somewhat by enacting that all goods entering or leaving the colonies should pass through England to give employment to English shipping. This branch of commerce developed into the entrepôt or distributive trade, for which London became, as she still is, very important. These regulations concerned the southern colonies and the West Indies mainly, the fish, cereals and timber of the New England States being free to be shipped to any port. In any case, the reservation could only apply effectively to the less bulky and more valuable colonial products, which was the reason why these were specially enumerated as the preserve of English shipping. England had no need to import the products of the New England States, except perhaps shipping stores, masts, spars and pig iron, which were the subject of special regulations. Bounties were offered to encourage the production of these commodities, and colonial pig iron enjoyed a preference over Swedish pig iron imported into this country. The regulations also applied to the exports of England to the colonies, exports consisting mainly of manufactured goods, of which cloth was the chief, and foodstuffs.

The whole policy, as mentioned before, was consistent with the traditions of the period, and as far as the southern colonies were concerned, there was no great opposition to it. England was by far their best market and the monopoly they enjoyed was of great economic advantage to them. It was different, however, with the New England States, which were opposed from the beginning to any restrictions on their economic activities. They traded not merely with the other colonies but had a flourishing commerce with the French West Indies and Spanish-America, in spite of the Navigation Acts. England was ideally situated for conducting the distributive trade between the colonies and other western European nations, and probably this trade would have developed in any case, apart from the statutory regulations. For trade with countries south of Cape Finisterre the regulations

would have been a serious hindrance, and an exception had to be made in this case almost from the beginning. But when an attempt was made by the Molasses Act of 1733, to force the trade between the French West Indies and the New England States into the entrepôt channels, it was carrying the policy to an absurd extreme. Active and bitter opposition was aroused, not merely against the Molasses Act, but against the whole colonial system. The colonists openly disregarded the law and England was powerless to prevent them. The trade continued as before and even the customs officials were compelled to close their eyes to it. This is another example of a costly failure to apply mercantilist doctrines.

The internal economic development of the colonies was also a concern of British statesmen. James I desired Virginia to undertake the cultivation of spices and was opposed to tobacco, but, as already indicated, tobacco became the staple product of that colony. In their early stages, as might be expected, the colonies were producers of raw materials and depended on imports for manufactured goods. The development of manufactures takes time and is only possible at a more advanced economic stage than they had reached. But in the New England States, in particular, attempts to establish industries were made very early in their history. Mention has already been made of the shipbuilding industry, and of the opposition to it among British shipbuilding interests. Many of the emigrants were skilled weavers, and attempts to establish the woollen cloth industry, especially when sheap-rearing increased, were naturally made. Deposits of iron ore were discovered in the north and the existence of abundant supplies of timber made iron-smelting possible. In both cloth-making and iron-smelting there was a conflict of interest between the New England States and the mother country, as the planting of these industries was directly opposed to the "Old Colonial System." The colonists were forbidden to manufacture cloth or iron for export, though they might do so for domestic purposes only. But they were encouraged to export pig-iron to England, where the shortage of fuel was already serious enough to hinder the development of the iron industry.

- With the increase in population and wealth of the settlements

in the New World, opposition against the restrictions of the " Old Colonial System " became greater. In the eighteenth century the conflict, especially with the New England States, became acute, and this was one of the chief causes that led to the American War of Independence.

THE IMPORTANCE OF THE POLICY.—Differences of opinion exist among historians concerning the results of the mercantile system. Some say that it is a mistake to call it a system, as the various measures were not part of a far-seeing and consistent policy, but merely laws to deal with particular problems as they arose, and that their object was usually to increase the revenue of the crown. Others say that, underlying the laws, was a definite policy, and that their object was to increase the power and wealth of England. It is difficult to decide which of these points of view is correct, and also whether the laws contributed to the development of English agriculture, industry and trade. Some of the agricultural regulations, if carried out, would have prevented much of the improvement in agriculture; the Weavers Act would have impeded the growth of the woollen industry; the experiment of James I did considerable injury to the cloth industry; the granting of charters of monopoly to the trading companies led to the complaint that trade was restricted (in fact, individual merchants traded with foreign countries, despite the bitter opposition of the privileged companies, and that of the government); finally many of the acts applying to the colonies were inoperative in practice. On the other hand, the regulations may have been of real assistance in other directions. The settlement of alien craftsmen proved very beneficial to industries; the payment of bounties, the steps taken to preserve timber, and the encouragement of the fishing industry helped shipbuilding; the grant of special trading privileges was an encouragement for groups of merchants to open up new lines of trade; the Navigation Acts probably gave some assistance to the carrying trade; the farmers felt more secure and confident with the protection of the corn laws.

But it is safe to assume that the real reasons for the economic development of England were the natural resources of the country, and the benefits she gained from the great discoveries.

The woollen industry was bound to grow sooner or later, owing to the abundance of raw material in the country ; agriculture was bound to thrive with fertile land ; trade was bound to develop when England had the goods to export, a number of good natural harbours, and a commanding position for trade with Europe and the West. In fact, the administration of the mercantilist measures was so difficult in the absence of an efficient body of paid officials, that many of them were totally disregarded. Probably the most we can say is, that of the laws that were effective, some of them assisted and some impeded, the development of the country, and that the power and wealth of England developed in the main owing to her pre-eminent commercial position, and her wealth of natural resources.

CHAPTER V

TUDOR SOCIAL POLICY

THE POOR LAW

THE PAUPER PROBLEM.—One of the most serious problems that faced Tudor statesmen was the great increase in pauperism that occurred during the sixteenth century. A good deal of poverty existed during the Middle Ages in the villages and towns. But most of the village population were assured at least of a modest living by cultivating the land, and even in the towns, membership of a gild gave some guarantee of a livelihood. The pauper problem was not therefore a pressing one, and voluntary charity was sufficient to cope with most of it. We have seen that the gilds had benefits for widows and orphans, and also that they had funds to help members during temporary distress. The Church encouraged alms-giving, while, under Canon Law, a proportion of the revenue of the monasteries was supposed to be directed towards the relief of the poor. Hospitals and alms-houses were built and endowed by charitable persons, who frequently left bequests for this purpose. Some of the towns, however, particularly ports like Southampton, were sometimes deluged by beggars and tramps, who were probably drawn there in the hope of finding employment in loading and unloading ships. It became necessary in such towns to take organised measures to relieve the poor, such as the levying of a rate on the inhabitants, and the licensing of beggars. Those beggars who were licensed were entitled to wear badges, and inhabitants were forbidden to give alms to the unlicensed.

But during the sixteenth century, complaints arose in most parts of the country that the number of paupers had increased in an alarming manner, particularly of the able-bodied paupers, who became a real source of danger. Bands of them wandered

about the country, committing acts of violence and theft. The "sturdy beggars" or the "idle rogues" became a byword during this period. They attacked merchants on the highways, entered towns to demand relief from the mayors, and generally caused such terror in the country that the government was forced to take strong measures to deal with them.

THE CAUSES.—There were several causes responsible for this great increase in pauperism, among the most important being the following. The enclosure movement in agriculture led to the eviction of thousands of peasants from their holdings. These had no alternative but to go elsewhere in search of employment. They went to the unenclosed villages and to the towns, but as it was difficult for them to find regular employment, many of them became beggars, if not worse. In the towns the guilds were breaking down, and there was less regularity of employment than there had been. The spread of industry to the villages, though it helped to provide work there, was responsible for much unemployment in some of the towns. The closing down of the monasteries produced a further addition to the army of paupers, since those who depended on the monasteries for their employment were now deprived of their livelihood. The monks also were disbanded, and a valuable source of relief for pauperism was lost. The disbanding of armed retainers by the lords added to the number of able-bodied paupers, and these became a great source of danger, trained as most of them were, for fighting. In addition to all these causes, the rising prices of the period, consequent on the increased supplies of precious metals, helped to increase pauperism, since the poorer classes found that their wages would not purchase as much as before.

GOVERNMENT ACTION.—The increase in pauperism was a matter of grave concern to the government of the period. The Tudors above all were anxious to preserve law, order, and internal peace in the country, and the existence of a large army of beggars threatened to destroy this. The increase in crime particularly roused their alarm, and vigorous measures were adopted to deal with it. These measures were directed mainly against the sturdy beggars, who were the chief menace to social

order. The J.P.'s were authorised to deal very sternly with these. Begging was prohibited, although there was an exception made in the case of soldiers and sailors, who were allowed to beg on their way home from the army and the ports. People were not permitted to leave their parish without a certificate signed by a responsible person, and by the Statute of Artificers in 1563, no person could be employed without a certificate signed by his last employer. This policy was later extended in various Settlement Laws, which tied people to their own parishes, making it difficult for them to move even in search of employment. They could not claim any poor relief, except in the parishes where they had a settlement. The object of these measures obviously was to prevent tramping, as the tramp was considered to be the cause of most of the trouble. There were harsh punishments for breaking these regulations. A person who was found wandering from his parish without the protecting certificate could be publicly whipped by order of a J.P., and sent back to his own parish, or to where he claimed a settlement. The punishment for a second offence was branding, which marked the person as an "habitual vagabond." A third offence could be punished by imprisonment or transportation, while a law passed during the reign of Edward VI, which was in force for two years, even permitted justices to inflict the death penalty for repeated offences of this kind. In spite of the severity of these laws, they did not prevent the trouble, and other measures had thus to be adopted.

Unemployment was the chief source of the able-bodied paupers, and the encouragement given by the government to the development of industries and trade was at least partly due to the desire to increase the means of employment. It was also realised by statesmen, like Lord Burghley, that it was necessary to organise methods of relief for paupers. A part of the spoils of the monasteries was devoted to this purpose, a few hospitals and alms-houses being built. The churches were expected to do all they could to relieve the poor. In 1538 a common poor-box was ordered to be placed in the porch of the church, and the vicar was "to exhort the people to be liberal in their contributions." But voluntary charity failed to provide a remedy, and in 1572 an act was passed authorising the J.P.'s to levy a poor rate on the parishes to provide the funds required to relieve the poor.

Thus for the first time, contributions to the relief of pauperism were made compulsory, and the money thus collected was to be used by specially appointed overseers of the poor, to assist the poor in the parishes. In the meantime many of the towns adopted their own measures to deal with paupers. The most important of these was the institution of the forerunner of the modern workhouse.

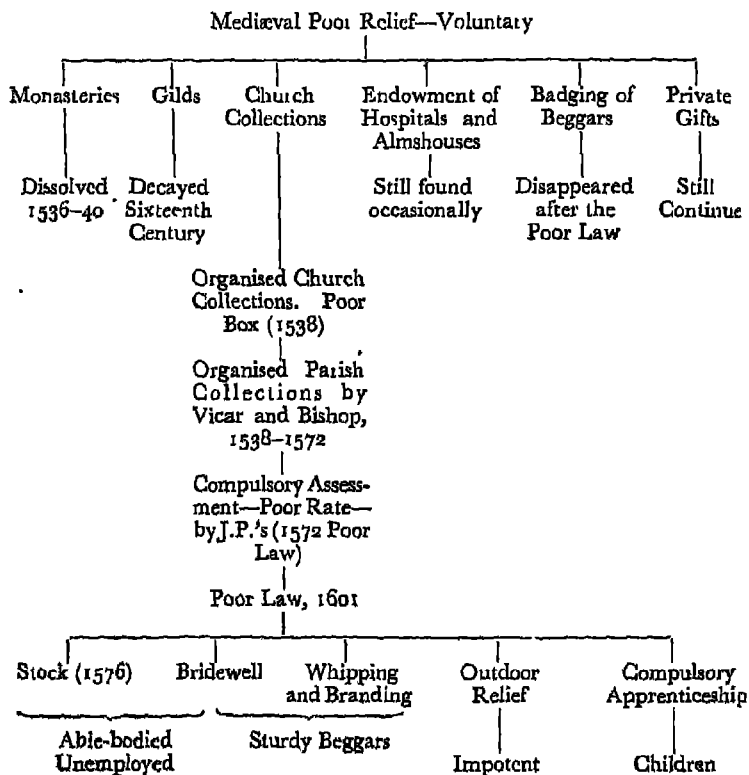
THE BRIDEWELL.—In 1550 the City of London was presented with Bridewell House (an old royal palace), by Edward VI, to be used as a "House of Correction" for the able-bodied poor. The mayor and aldermen were responsible for its conduct. Paupers were committed to the Bridewell, where they were placed under a system of rigid discipline and compelled to work. They could be kept there until they were deemed to be cured. A similar "House" was instituted in Norwich, where the paupers were taught various crafts like spinning and weaving. This method spread rapidly, and Bridewells, or Houses of Correction, were gradually established in most of the towns. The government also attempted to compel parishes to provide work for the poor. By an act of 1576, parishes were to provide a stock of wool, hemp, flax, or other materials, "to set the poor on to work," willingness to accept the work being made a condition of getting relief. It was hoped to provide sufficient funds to maintain the paupers by selling the goods made by them, but these hopes were seldom, if ever, realised in practice. It was, in fact, almost impossible to compel parishes to accept this liability.

THE POOR LAW OF 1601.—The various acts passed for the relief of the poor were consolidated by the Poor Law passed in 1601. By this time four classes of paupers were recognised, the pauper children, the impotent (those who were unable to work owing to some physical disability like blindness, disease or deformity), the able-bodied unemployed, who were thrown out of work through no fault of their own, and finally the idle rogues, who did not desire work. This act provided different treatment for these classes. The J.P.'s were to try and apprentice children to trades, the fees to be paid by the poor law funds. The parishes were to appoint overseers of the poor, who were to relieve the

impotent in their own homes, or in homes provided for them. Parishes were to provide work for the unemployed, and to give them relief from the rates until they found work. The idle rogues were to be punished or committed to Houses of Correction. The overseers of the poor were to report to the J.P.'s how much money was needed for these forms of relief, and the J.P.'s then levied a poor rate on the parishes, sufficient to raise the necessary funds.

This remained the basis of the English system of poor relief until the act was amended in 1834.

THE DEVELOPMENT OF THE SYSTEM OF POOR RELIEF



REFERENCE BOOKS FOR PART II

- | | | | | |
|-------------------------|---|---|---|---|
| W. ABBOTT | . | . | . | <i>Expansion of Europe. 2 vols.</i> |
| W. ASHLEY | . | . | . | <i>Economic Organisation of England.</i> |
| BLAND, BROWN AND TAWNEY | . | . | . | <i>English Economic History—Select Documents.</i> |
| W. CUNNINGHAM | . | . | . | <i>Growth of English Industry and Commerce (Vol. II).</i> |
| W. H. R. CURTLER | . | . | . | <i>A Short History of English Agriculture.</i> |
| JOHN EVELYN | . | . | . | <i>Diary.</i> |
| LORD ERNLE | . | . | . | <i>English Farming Past and Present.</i> |
| A. S. GREEN | . | . | . | <i>Town Life in the Fifteenth Century.</i> |
| W. HASBACH | . | . | . | <i>History of the English Agricultural Labourer.</i> |
| E. M. LEONARD | . | . | . | <i>Early History of English Poor Relief.</i> |
| E. LIPSON | . | . | . | <i>The English Woollen and Worsted Industries.</i> |
| SIR THOMAS MORE | . | . | . | <i>Utopia.</i> |
| C. A. PRATT | . | . | . | <i>A History of Inland Transport.</i> |
| SAMUEL PLPYS | . | . | . | <i>Diary.</i> |
| W. HYDE PRICE | . | . | . | <i>English Patents of Monopoly.</i> |
| W. R. SCOTT | . | . | . | <i>Joint Stock Companies to 1720 (Vols I and II).</i> |
| A. SAVINE | . | . | . | <i>English Monasteries on the Eve of the Dissolution.</i> |
| J. STOWE | . | . | . | <i>A Survey of London.</i> |
| R. H. TAWNEY | . | . | . | <i>The Agrarian Problem in the Sixteenth Century.</i> |
| H. B. TRAILL | . | . | . | <i>Social England.</i> |
| G. UNWIN | . | . | . | <i>The Gilds and Companies of London.</i> |
| S. AND B. WEBB | . | . | . | <i>The King's Highway.</i> |
| C. WALFORD | . | . | . | <i>Fairs Past and Present.</i> |

PART III

1660-PRESENT DAY

INTRODUCTION

THE CIVIL WAR.—The execution of Charles I, in 1649, brought to an end the period of the absolute rule of the crown. We have seen that the Tudors had established a strong centralised government in England, and that they had ruled as despots. But they had been wise enough to make use of parliament, which, though subservient to the will of the crown, was consulted in most matters of legislation and taxation. By the end of the sixteenth century its strength and importance in the government of the country had increased enormously. The early Stuarts failed to realise this, and their attempt to become absolute monarchs, claiming complete independence from control by parliament, was bound to lead to conflict. In 1642, the climax was reached, and the country was plunged into the Civil War. The struggle ended in victory for the parliamentary forces, and the supremacy of parliament in the government of the country was established.

THE INTERREGNUM.—For eleven years England had no king. At first parliament and the army ruled the country directly as the Commonwealth, until Oliver Cromwell, with the aid of his Ironsides, established the Protectorate, by which he became the virtual ruler and dictator of the country. There was need for strong government to restore order, and to put down the revolts which occurred in various parts of England, Wales, Scotland, and Ireland. It was fortunate for England that, during the Civil War, the great European Powers could not take advantage of her weakness, as they were themselves involved in the Thirty Years War, until the Peace of Westphalia in 1648. By that treaty

Holland secured her independence from Spain, and she became the great commercial and naval power of Europe. Dutch merchants had succeeded in capturing much of England's trade, and parliament realised that the restoration of trade was necessary for England's economic recovery. Steps were taken to re-establish the trade of the East India Company, and the Navigation Act of 1651 was passed to protect English trade. In 1652 war broke out with the Dutch, partly for the same reason, but also to demonstrate the military and naval strength of the new government.

THE RESTORATION.—Cromwell himself, by the force of his strong personality, was successful in maintaining the Protectorate, but after his death, in 1658, the cause of monarchy gained strength rapidly. In 1660 the restoration of Charles II took place peacefully and the country reverted to a monarchy.

But it was not a restoration of the old form of monarchy. Charles II could not forget the lessons of the Civil War, and parliament remained supreme in all matters of legislation and taxation. The king was granted taxes sufficient to produce an annual revenue of £1,200,000 for the purposes of government, but he was forced to borrow money, as his expenditure was greater than this. He also received subsidies from Louis XIV of France, who desired to prevent England from forming an alliance with his great rival, Holland.

THE REVOLUTION OF 1688.—On the death of Charles in 1685, he was succeeded by his brother James II. Charles had wisely kept his religious and political opinions in the background, but James, a more conscientious but less capable man than his brother, was cast in a different mould. He was an ardent Roman Catholic, and an attempt had been made to exclude him from the throne in 1680 for this reason, in favour of the Duke of Monmouth. A rising in support of the latter took place in 1685, but it was easily put down, and the severity with which the rebels in the West Country were punished during the "Bloody Assize," was an indication of the intolerant nature of the new king. Encouraged by the early success of his forces, the king probably over-estimated his power. During the next three years, he in-

creased the standing army and appointed Catholics to all responsible posts. His downfall came quickly. At the end of 1688 he was forced to abdicate after the landing in England of William of Orange, the husband of Mary, James's Protestant daughter. William and Mary ascended the throne at the invitation of parliament. This "Bloodless Revolution" completed the work of the Civil War. A protestant succession was assured for the English throne, and parliament was now supreme, not only in matters of legislation, administration, and taxation, but even to the extent of deciding on the succession.

THE SUPREMACY OF PARLIAMENT.—The events of 1688-9 established in England a system of government known as a constitutional monarchy, by which the crown governed the country with the consent, and by the authority of Parliament. The responsibility of the king's ministers to the Lower House, one of the great bones of contention of Charles I's reign, was established, and parliament, if only by its complete control of the nation's purse-strings, became supreme. Its position was secured by the Bill of Rights, which legally gained for it all the privileges and rights for which it had so long battled. During the sixteenth century, the policy of the Tudors had brought out, perhaps unconsciously, its importance and strength, and by the beginning of the seventeenth century, it was prepared to fight for control over the affairs of the nation. The fight was bound to come and the Stuarts were the victims. Within the century parliament destroyed despotism, beheaded a king, ruled the country without a king for eleven years, forced another king to abdicate, and presented the crown to a foreign prince, thus deciding the succession to the English throne. The Privy Council, which acted as the administrative authority under the Tudors, had its power crippled by the abolition of the courts which enforced its decrees, and a new system of administration was established with parliament in control of the king's ministers.

The crown retained the right of appointing and dismissing ministers but actually they could only remain in office so long as they enjoyed the confidence of the House of Commons. The ministers became the cabinet of the country, responsible to parliament for the executive government. The right of veto

also remained, but in practice this disappeared in the reign of Queen Anne. Considerable power remained to the crown in entering into treaties with foreign countries, and in declaring war and concluding peace, but the co-operation and consent of parliament were essential in these matters. Gradually all these powers have become merely the nominal right of the crown. Parliament has become the sovereign power in the land, with complete control over domestic and foreign policy. The original powers possessed by the crown have been transferred to the cabinet ministers, who are, in turn, controlled directly by parliament, in particular by the House of Commons. The Commons had always claimed a privileged position in the state in all money matters, basing the claim on the fact that they were representatives of the tax-payers. But until 1832, the basis of representation was very narrow, the franchise being confined in the counties to those who held property of at least forty shillings a year in value (the so-called forty-shilling freeholders), and in the towns to those who were freemen, namely the burgesses who were entered on the roll of freemen of the borough, a distinction which was conferred by the corporation, or held in virtue of membership of a gild or livery company. There were also a wide variety of "fancy" franchises in some boroughs, which made borough franchise a complicated and confused affair. But, in any case, its basis was usually very narrow. The Reform Act of 1832 began the work of widening the franchise, by giving the vote to householders in the towns. Members were also redistributed by disfranchising the "Rotten Boroughs" (those ancient boroughs which had decayed, but still retained their M.P.'s), and enfranchising the new industrial centres of the north and west. Subsequent acts extended this reform, and by the act of 1928, universal suffrage has been granted to all men and women over the age of twenty-one years, so that the House of Commons is now representative of the entire adult population.

ECONOMIC CHANGE.—The year 1660 marked for England the beginning of a series of changes which have completely transformed almost every aspect of national life. The history of these changes forms the subject-matter of the remainder of this book. In 1660 England was still an agricultural country, although

commerce, and to a less extent industry, had become quite important, employing altogether about forty per cent. of a population estimated at between five-and-a-half and six millions. But during the eighteenth, and more particularly the nineteenth century, economic changes followed one another in such rapid succession that the term "Economic Revolution" may well be applied to the period, especially when it is contrasted with the preceding six centuries.

THE AGRICULTURAL REVOLUTION.—English farming was transformed by new and scientific methods, while English village life shared in the change. The old manorial village, with its open fields, commons, and wastes, entirely disappeared, its place being taken by the modern agricultural village of scattered farms and enclosed fields. Under the pressure of a rapidly growing population the old system gave way, and farming was revolutionised to provide food for the great industrial centres of the country.

THE INDUSTRIAL REVOLUTION.—The growth of industry during this period was phenomenal. On the basis of machinery and power, enormous industrial towns grew up, with their smoking chimneys and teeming factory population. Industry, before 1760, was a subsidiary occupation, and the making of woollen cloth by hand was by far the chief industry in the country. By the end of the nineteenth century England had been industrialised; agriculture, although still an important occupation, had become subsidiary, employing only about one-tenth of the population of thirty-six millions. The cloth industry of the home with hand-spinning-wheel and hand-loom, became a factory industry, turning out machine-made products in enormously increased quantities. New industries like cotton, coal-mining, iron and steel, engineering, and a host of others, grew up, and whole districts which were hitherto only sparsely populated agricultural areas became hives of industry.

THE COMMERCIAL REVOLUTION.—These industrial changes could not have occurred without corresponding changes in transport, trade, and finance. Goods could not be produced

on a large scale without means of conveying the manufactured goods to the markets, and of bringing the raw materials, coal and machinery, to the factories. Food had also to be provided in enormous quantities for the factory workers, besides building material for their houses. As will be described later, the means of transport were very imperfect, until the roads were improved during the eighteenth century, and the canals were built after 1760. But the revolution occurred with the invention of mechanical transport, and the nineteenth century became the age of the railway, the steam locomotive, and the steamer. These transport changes produced a revolution in commerce. Hitherto, foreign trade had been mainly confined to articles of small bulk and great value, as bulky, perishable, and cheap goods could not be carried great distances. Home trade was also local in character, and, compared with the present day, the amount of internal trade done was negligible. But with the coming of mechanical transport all this was changed. Distance ceased to be a barrier to trade, and goods of all kinds became the objects of world trade.

Large scale undertakings in industry, trade and transport, required an enormous outlay of capital. There were no banks in England until the middle of the seventeenth century. These were indispensable as the means by which the savings of the people could be collected together and made available for financing the business men, the manufacturers, and the inventors. Thus, to meet the needs of the new age, a rapid development of banking occurred, the goldsmith bankers and the Bank of England, in the latter half of the seventeenth century, the private commercial banks in the eighteenth, and the joint stock banks in the nineteenth century.

THE SOCIAL REVOLUTION.—These great economic developments wrought profound changes in English social life. In the rural agricultural England of 1660, life was very detached and, on the whole, uneventful. People rarely travelled, beyond occasional visits to neighbouring villages and towns; the working day was a long one, lasting from sunrise to sunset; food was plain and simple; amusements were few, beyond games on the village commons and occasional visits of travelling players, with

some cock-fighting, bull-baiting, coursing, wrestling and fighting, among the male population ; news travelled very slowly, and was made up mainly of the gossip of the travelling pedlars, whose tales were often more eagerly sought for than their wares ; altogether it was a peaceful, though somewhat monotonous existence, but the standard of living was much lower than the average of the present day. Life in the towns was somewhat similar, though perhaps rather more varied. Towns were usually very dirty insanitary places, with mean little wooden houses, and narrow streets. Disease was responsible for a very high death-rate in them, and plagues were by no means uncommon. Fires were frequent occurrences, the Great Fire of London being exceptional only in the extent of the damage done.

England was the pioneer country in industrialism, and the enormous changes brought many social problems in their train. The early factory towns were infinitely worse than their predecessors, and social abuses, like the employment of young children and women for long hours, and squalid conditions of work and living, became only too common. Though there is still room for improvement in the social conditions of our towns and villages, social life has undergone a complete change, and, on the whole, undoubtedly a change for the better. The standard of life has been raised considerably, the average person of to-day enjoying far more conveniences and comforts than the wealthier classes of a couple of centuries ago. Travelling has become quite common ; education has become the birthright of all ; food, drawn from all quarters of the world, has become more varied ; health has improved, and medical science has made great strides in the conquest of disease ; towns have become sanitary, healthy, and cleaner ; and the people of to-day enjoy much more leisure than their forefathers did. Altogether social life has become much more varied and interesting.

These changes are largely the outcome of the industrial and commercial developments of the last two centuries, and in the present age of invention, there is no evidence that the change is complete. Economic developments are proceeding all round us, and our manner of living is even now, in this age of motor transport, wireless and other wonders, undergoing further change.

CHAPTER I

AGRICULTURE DURING THE EIGHTEENTH CENTURY

THE FOOD PROBLEM.—English agriculture, in 1700, showed little change in most parts of the country from the previous century. There were certain counties, like Kent, where farming had improved considerably, mainly owing to the existence of a large market for agricultural produce in London. But, on the whole, methods were still very backward, and most of the land was still farmed in open field strips, under the three-field system. Agricultural implements were crude, and there was little attempt to make a proper study of agriculture, or to apply scientific principles to it. A farmer of the fifteenth century would have been quite at home on a farm at the beginning of the eighteenth century.

Perhaps the chief reason for this lack of progress was that no great pressure had been put on the food supply of the country. The population had increased only very slowly for the past three centuries, and in 1700 it was still under six millions. The old methods had been quite capable of keeping pace with this growth. Farmers also depended, in the main, on selling their produce in the locality, and if big surpluses had been grown by improved methods, the means of transport were too imperfect to convey the produce to more distant markets.

But during the eighteenth century, conditions underwent considerable change. This century saw the beginnings of the Industrial Revolution, with its big industries, and its great towns filled with a factory population. The expansion of commerce proceeded equally rapidly, and means of transport were developed which made the industrial and commercial progress possible. The population of England and Wales increased very rapidly, especially after 1760, and by the time of the first census, held in 1801, it was nearly ten millions. This produced a growing

pressure on the nation's food supply. Although it was possible to import a little food from countries like Russia, Poland, and France, England had to depend, in the main, on her own resources. The vast wheat-growing districts of the New World had not yet been developed, and in any case, in an age of sailing vessels, they were too far away to become the granaries of Europe. The old system of agriculture, which had served the country for centuries, became out of date, and a new system became necessary to provide food for a population that would otherwise be faced with famine. "Improve or starve" were the alternatives.

THE ENCLOSURE MOVEMENT.—One of the greatest obstacles to improvement was the open field system, which entailed so much waste of land and time, while farming strips in common made individual experiments with new crops and new methods almost impossible. The improvement of stock-breeding was also impracticable while animals grazed in common. The commons were notoriously overcrowded, and only afforded a very scanty living for the stock, while the frequency of diseases, like sheep-rot, was a constant source of anxiety to farmers. We have already seen that a considerable enclosure movement occurred during the sixteenth century, enclosures which, in the main, were for conversion to pasture. Enclosure of land by voluntary agreement among the villagers continued to take place during the following century. But during the eighteenth and the early part of the nineteenth centuries, a great wave of enclosure occurred, which, with a few solitary exceptions, swept away the open fields and commons, and converted England into the land of enclosed fields with which we are familiar to-day.

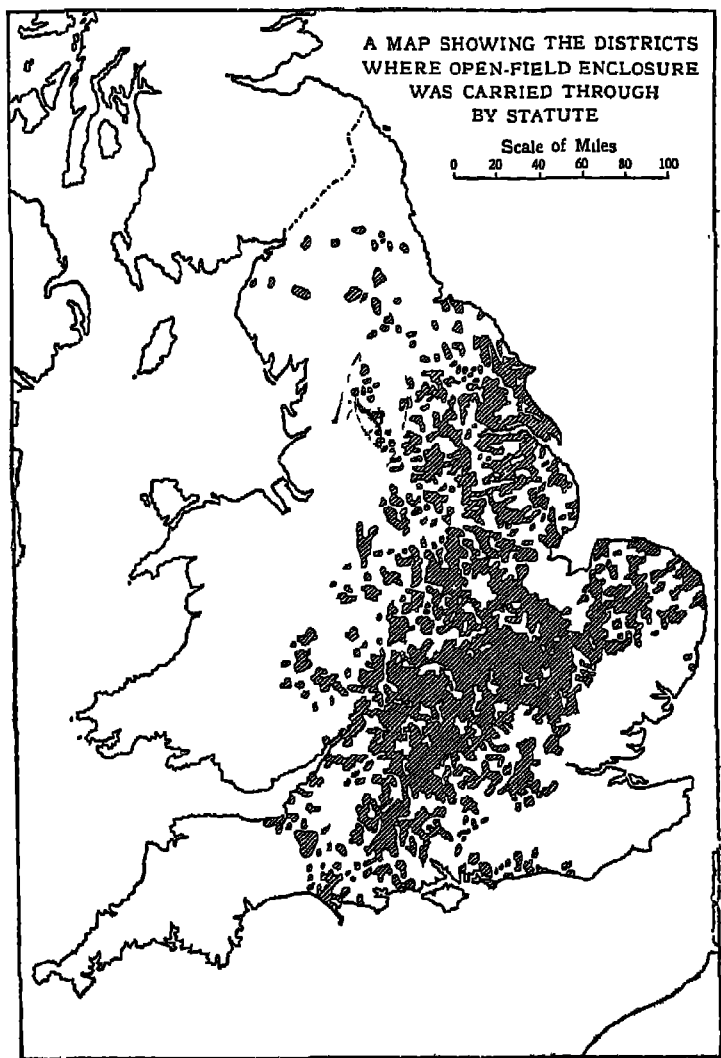
THE METHOD OF ENCLOSURE.—During the sixteenth century, enclosure of land had been carried out against the wishes of the government and of the villagers, in the majority of cases, and wholesale evictions and dislocation had followed. The enclosures of the eighteenth century were prompted by the desire for improving the methods of cultivation, and although, as we shall see later, the villagers were usually opposed to them, the government favoured them. A meeting of the villagers was first held to discuss the question, but, as a rule, the bigger landowners had

already decided to enclose, as they had everything to gain from the improved value of the land. A petition was then forwarded to parliament for permission to enclose. This necessitated the passing of a private act for each petition, a tedious and expensive process. Altogether over four thousand of these acts were passed, mainly in the period between 1760 and 1820. The procedure was simplified in the nineteenth century by General Enclosure Acts, one passed in 1801 and the other in 1845, which appointed special committees to carry out this work. Over five million acres of land were enclosed by private act. When the act had been passed, special commissioners were appointed to survey the village, to examine claims, and finally to redistribute the land in compact pieces to those who had proved their claims. The villagers had then to put fences, or hedges, round the land allotted to them, at their own expense. The whole process occupied the best part of two years, but sometimes longer, while the expenses were very heavy, often amounting to many thousands of pounds.

THE RESULTS OF ENCLOSURE.—Enclosure was highly beneficial for agriculture, and although it took some time for the standard of farming to be appreciably raised, important economies in land and time were immediately effected. It became possible for individual farmers to strike out new paths for themselves, to adopt new methods, and to introduce new crops. In view of the urgent need for improvement, the open field system had to be abandoned sooner or later, so that enclosure was inevitable and necessary.

While the large landed proprietors and the wealthy tenant and yeoman farmers benefited considerably from the enclosure, the position of the majority of the villagers, particularly the poorer classes, became materially worse. They had been allowed to pasture a cow, and perhaps a few sheep, pigs, and poultry, on the commons and wastes, although they had no legal claim to do so. They enjoyed this right because it was the custom of the village. When the commons were enclosed, they lost this privilege, and even when they were given small pieces of land in exchange, these did not adequately compensate them for their loss. Sometimes a piece of common of perhaps twenty to forty acres in extent was set aside by the commissioners for the use of the poor

AGRICULTURE IN THE EIGHTEENTH CENTURY 117



Emery Walker Ltd. sc.

but generally the villagers who had eked out their small weekly wages by keeping a little stock, became landless labourers, dependent solely on their wages. The small yeomen and copyholders, who held perhaps ten to thirty acres, were also injured by the loss of common rights. In addition, they had to bear their share of the expenses of enclosure and of fencing their land, the latter alone costing three to five pounds an acre. As few of them had any money, they had either to mortgage or sell their land. Some of them became tenant farmers, using the proceeds of the mortgage or sale to rent and stock bigger farms, while others went to the towns or became landless labourers. Even the staunchest supporters of enclosure, like Arthur Young, admitted that "the poor were injured by nineteen enclosure acts out of twenty," pointing out that the loss of land and stock was a serious blow to the peasantry. It took away from them the feeling of partial independence and the motive for thrift, as they had little chance of improving their condition by becoming small farmers on their own account. The nineteenth century was the age of the large farm and the wealthy tenant farmer who had the capital to invest in improvements on his land.

PIONEERS OF AGRICULTURAL PROGRESS: JETHRO TULL.—Improvement of agriculture resulted from the work of enterprising farmers who were not afraid of trying new methods. Among the greatest of these was Jethro Tull, to whom agriculture owes a very great debt. Born at Basildon in Berkshire, in 1674, Tull received a good education, and in 1699 he was called to the Bar. He was the heir to a good estate, and, owing mainly to a breakdown in health, he abandoned the law for farming, although farming was not the fashion for gentlemen in those days. He began his work at Howberry Farm in Oxfordshire, and from the first he discarded the old methods which had been in use for centuries. In particular, he disagreed with the broadcast method of sowing seed, which, he urged, besides being extremely wasteful, did not result in even sowing, and made the work of hoeing and weeding very difficult. He instituted the method of sowing seeds in drills, or rows, which allowed of hoeing while the crops were growing. This method not only economised seed, but resulted in better crops than his neighbours, with a quarter, or even less,

seed than they used. His labourers, who probably regarded him as a crank, refused to adopt his plan. In 1701, he invented a mechanical drill, and dismissed his troublesome labourers, of whom he said, "It were more easy to teach the beast of the field than to drive the ploughman out of his way." He persevered with his work amid great difficulties, and the results he obtained surpassed even his own expectations. In 1733 he published a book, *Horse Hoeing Husbandry*, in which he described his thirty years' experience as a farmer, giving full details of his methods. To his great disappointment the book was bitterly opposed and his advice ridiculed. He was extremely sensitive, and more than once complained of "long confinement within the limits of a lonely farm, having debarred me from all conversation." The state of the roads in those days made travelling irksome, painful and difficult. His health was also bad, his son was a spendthrift, and he had endless trouble with his labourers. He died at his now famous home, Prosperous Farm, near Hungerford, in 1741. Despite his troubles and disappointments, he remained confident that, as he expressed on his deathbed, his practice would one day become the general husbandry of England.

LORD TOWNSHEND.—Another great name in English agriculture is that of Charles, second Viscount Townshend. Born in 1670, Townshend spent the greater part of his life in politics. In 1730, he was co-Secretary of State with his brother-in-law, Sir Robert Walpole. As the result of a quarrel with Walpole, he retired to his estates at Raynham, Norfolk, determined to spend the remainder of his life farming, in which he had always been interested. His estates were wide in extent, but were composed mainly of heaths, marshes and rough pasture-lands. One writer described them as a barren wilderness, "where a few sheep starved, and two rabbits struggled for every blade of grass"; and another, that the "brief but exhaustive list of its products was nettles and rabbit-warrens." Townshend adopted the Tullian system of deep ploughing, sowing in drills, and hoeing. He also revived the practice of marling his land, that is mixing the rich subsoil with the light sandy soil of which the surface was composed. The results were nothing short of miraculous, and

Townshend succeeded in growing heavy crops of wheat on land which had hitherto been regarded as almost worthless. But his greatest work was in the field cultivation of turnips, and the working out of an improved rotation of crops, called the Norfolk System. He did away with the fallow field, by which one-third of the cultivated land was idle every year, and instead, advocated the planting of crops of turnips, barley, clover and wheat, in successive years. Turnips provided an invaluable winter fodder for sheep and cattle, whose maintenance in winter was an anxious problem for farmers. Townshend was so enthusiastic in his advocacy of turnips that he earned the nickname of "Turnip Townshend." He died in 1738, having established his fame in the last eight years of his life. The importance of his work cannot be over-estimated. As writers like Young pointed out later, his methods turned four hundred thousand acres of heath into rich wheat land, and in the following century converted the moorlands of Lincoln into the most productive corn lands in the country.

ROBERT BAKEWELL.—The scientific breeding of live-stock was almost completely neglected in England, and Bakewell's contribution to English agriculture was to lay the foundations of the improvement of animal breeds, for which England became, as she is at present, famous throughout the world. Bakewell was born at Dishley, near Loughborough, in 1725, and he succeeded to his father's farm in 1760. He was a typical yeoman farmer of the "John Bull" type, sturdy of frame, brown-faced, with a hearty manner that made him very popular. He devoted himself to the improvement of live-stock with a view to increasing the meat supply of the country. Sheep had been bred mainly for their wool (the carcass being sacrificed to the fleece), cattle for their milk, and oxen for the plough. Sheep that had been compelled to graze over miles of common on scanty weed grass were not very productive from the butcher's point of view. One popular breed was compared by a contemporary writer to a goat, while another described a fair specimen of the Warwickshire breed in the following terms: "His frame large and loose, his bones heavy, his legs long and thick, his chine as well as his rump as sharp as a hatchet, his skin rattling on his ribs like a

skeleton covered with parchment." Bakewell paid particular attention to feeding, and his work was made possible by the provision of ample winter fodder in the form of root crops. He irrigated and drained his land, provided clean and hygienic quarters for his stock, and took a pride in keeping the animals clean and treating them kindly. One visitor to his farm was amazed to see a huge bull being led by a boy of seven. His breeds became famous within thirty years throughout England, and even Europe. His hospitality was prodigious, and he kept open house for all comers. He entertained, on a lavish scale, people of all ranks, Russian princes, German dukes, English lords, in addition to hundreds of farmers, and all went away greatly impressed with what they saw. He achieved his greatest success with sheep, and he reared the very famous breed of New Leicestershires, which were unsurpassed for generations. He was less successful with cattle and horses, but others, who imitated his methods, achieved marked success in these directions. Although he made immense sums by the sale and hire of his animals, he is said to have died a bankrupt in 1795. As a result of his work, and that of others who followed him, the size and weight of animals increased tremendously, and the meat supply of the nation was almost trebled. Stock-breeding to-day is one of the most important and profitable branches of agriculture.

OBSTACLES TO PROGRESS.—While the work of able pioneers like Tull, Townshend, and Bakewell pointed the way to agricultural improvement, progress came very slowly until the latter part of the eighteenth century. We cannot be surprised at this when we consider the numerous obstacles which impeded the spread of improvements. The means of transport and communication were in such an imperfect state that people were compelled to lead a local life, while whole districts were frequently isolated by the impassable state of the roads. New ideas therefore spread exceedingly slowly, and it was a problem for the farmers to get their produce to the markets, except in some favoured districts where good river facilities existed. Farmers also distrusted "new-fangled notions," and as a class their attitude was distinctly conservative towards the adoption of new

methods, to replace those which had been the practice of their forefathers for generations. They were perfectly justified in rejecting many of the suggestions made, such as the introduction of elephants as draught animals, while advice came only too frequently from people who either had no practical experience, or had themselves failed as farmers. Old methods and traditions were exceedingly difficult to displace. Besides, the majority of improvements suggested required the outlay of considerable capital, and they were profitable only to those who farmed on a large scale. The agricultural pioneers were men of wealth, and their methods were impracticable to those who had not the means, even if they had the desire, to adopt them. The small farmers were handicapped from the beginning in the competition with the capitalist farmers by their lack of money to invest in improvements.

ARTHUR YOUNG.—The person who was responsible more than anyone else for the spread of knowledge of agricultural improvements was Arthur Young, one of our greatest writers on agricultural subjects. Young was born in 1741, and he lived through the age that experienced the transformation of English agriculture. He took up farming himself, but although he studied agriculture carefully, he had no mind for details and economies, and he was a complete failure in the practical sense. He paid one farmer £100 to take a farm of three hundred acres at Samford Hall, off his hands, a farm which proved very profitable to its new tenant. Arthur Young, however, profited by his own failures in advising others what to avoid. He took to writing on agricultural subjects, and his interesting style gained for him a very wide popularity. In ten years he realised £3,000 on the sale of his books, including the *Farmers' Letters* and his famous *Tours*. The estimation in which his writings were held may be judged from the fact that they were translated into German, French and Russian. Young went about the country on his great tours, conducting a campaign against bad farming and the wasteful open field system. He gave lectures, which drew large crowds, in the villages and towns he passed through, condemning the existing practices and describing the improved methods of some of the advanced districts like Leicester, Norfolk, and Kent.

These lectures, combined with his writings, could not fail to impress people. In 1793 the Board of Agriculture was founded, with Sir John Sinclair as its president, and Young as secretary, at a salary of £400 a year, which he thought very inadequate. He was a tireless worker, and the success of the new Board was due principally to the enthusiasm of its secretary. Statistics and other information were collected from all parts of the country, and published annually in the form of Reports, which Young himself wrote for the most part. He died in 1820, and although completely blind for a number of years before his death, this did not prevent him from working hard to the last.

❧ **AGRICULTURAL PROGRESS.**—While Arthur Young was writing, farming made great strides in England. The work of the early pioneers bore fruit in the latter part of the eighteenth century, a period during which widespread interest was aroused in agriculture. Farming became fashionable among the gentry of the country. It is said that Walpole opened his farm letters before those of the state, and that George III, nicknamed "Farmer George," wrote articles in the *Farmers' Magazine*, under the nom-de-plume "Ralph Robinson." He told Arthur Young that he always took a copy of his *Farmers' Letters* with him wherever he went. A story is told of Bolingbroke, at Dawley Farm, that, "propped up between two haycocks he read Swift's letters, uplifting his eyes to heaven, not in admiration of the author but in fear of rain." There was scarcely a nobleman without his farm, while agriculture became the absorbing interest of the country squires. Some London merchants even became farmers at the week-end. Agricultural shows were established, and annual prizes were offered for the best samples of agricultural produce and the best beasts. Farmers' clubs were founded in the villages, at which papers were read on agricultural topics, and farmers were encouraged to relate their experiences and discuss their problems. Premiums were offered by the Society of Arts for the invention of agricultural machinery. All writers of the period agree that enormous progress resulted. Enclosures were hastened and much waste land was brought under cultivation. The experiences of the French Wars, which made food imports even more difficult than normally, the high

prices of food, the rapidly-growing population, the enclosures, and the investment of capital in agriculture, all combined to produce the agricultural revolution of the nineteenth century, when the work of the eighteenth century pioneers became, as Tull had foretold, "the general husbandry of England."

CHAPTER II

COMMERCE AND COLONISATION DURING THE EIGHTEENTH CENTURY

COMMERCE AND INDUSTRY.—When Napoleon referred to England as "the nation of shopkeepers," he did not intend it as an expression of contempt. Rather did the remark show that he realised where the chief strength of his principal adversary lay, and in his attempts to restore economic prosperity to France, he did his best to undermine England's trade so that French merchants might fill the gap. By the beginning of the nineteenth century the economic life of England had come to depend in no small degree on world markets. English industries were producing goods for sale to all parts of the world.

We have already seen that the foundations of England's commercial greatness were laid during the sixteenth century. Steady progress was made during the period of the Tudors and the first two Stuarts, but a serious setback occurred as a result of the Civil War. Recovery took place in the decade that followed, and by 1660 things were practically normal again. During the next hundred years, the growth of commerce was so rapid that we may well refer to it as the outstanding economic characteristic of that period. Unfortunately we have no means of accurately measuring the growth of trade, as no commercial statistics were kept until 1697, and even for some time after that we cannot place complete reliance on them. For instance, smuggled goods were not recorded for obvious reasons, and the smuggler was a well-known character in the eighteenth century. Incidentally, however, the fact that a beginning was made to keep commercial records in that year brings out the growing prominence of commerce. In the absence of reliable statistics we are forced to rely on other sources of evidence. The writings of contemporaries, for instance, those of Petty, Davenant, and

later of Defoe, indicate this fact. The last named, who travelled about the country fairly extensively during the first part of the eighteenth century, was particularly impressed by it. Everywhere he went, he saw evidences of increased trade, and confessed astonishment at the rapid growth of some of the northern towns during a comparatively short interval between two of his visits. During the eighteenth century commerce and industry, including agriculture, became inseparably allied. Production for exchange became the rule, instead of production for the producers' own consumption.

COMMERCIAL EXPANSION.—An approximate idea of the rate of commercial expansion may be gleaned from the revenue figures after 1660, and from the tonnage leaving English ports after 1700. Between 1660 and 1688 the customs revenue doubled, a fact for which the crown was doubtless devoutly thankful. Again the tonnage leaving English ports was estimated at 317,000 tons in 1700. By the middle of the century this figure was more than doubled, and by 1785 the one-million mark was reached. Expansion was even more rapid after that date, the two-million mark being passed in 1801. We can also turn to the history of some of the principal seaports for confirmation. For instance, Liverpool, perhaps an extreme but by no means an isolated case, increased in population from 5,000 in 1700 to 35,000 in 1773, its trade growing in the same period from about 27,000 tons to over 100,000 tons per annum. The colonial trade and the slave traffic were mainly responsible for this growth. Before it became the premier cotton port of the world, Liverpool was the greatest slave-trading port in Europe. Bristol is another example. The third port in Britain, Bristol had been for centuries the distributing and collecting centre for the West Country. In the eighteenth century, it grew rapidly, on the basis of the slave trade and of the sugar and tobacco traffic from the West Indies. London benefited considerably from the entrepôt trade in colonial produce, while it also became the principal corn market in the country. It is interesting to recall that in the sixteenth century the provision of supplies of corn for the city's consumption was a very anxious problem for the corporation. By the beginning of the eighteenth century,

although London had grown enormously in the meantime, that anxiety had practically vanished. The explanation is that a regular corn market had been established in the city, and supplies of corn reached there from all the principal corn-growing districts of the eastern and south-eastern countries, much of it for export to European markets. Other examples which may be cited are Newcastle, which became a thriving port for the coal trade, and Hull for the Baltic trade.

Of the principal exports of the period those of woollen cloth were by far the chief. These increased from 4.3 million pounds in 1688 to 14.6 million pounds in 1760, by which time the cloth industry was already tending to outstrip the home supplies of wool, which had then to be imported in increasing quantities from 1760 onwards. In the same period the exports of cotton cloth trebled in value, but it was after 1760 that this trade grew to rival and finally to surpass that of wool. The export of corn was also a very important part of our trade until 1773, when England ceased to be one of the granaries of Europe.

INTERNAL TRADE.—During the eighteenth century the internal trade of the country ceased to be predominantly local in character as it had been for centuries, and became national in its extent. Producers of cloth, wool, and corn looked more and more to the country as a whole for the disposal of their goods rather than to the market in their own immediate neighbourhood. This required a much more elaborate organisation than had existed previously, and it was during this century that the internal commercial organisation developed on a really national basis. Important consequences resulted for industry and agriculture. A nation-wide market created greater possibilities of specialisation, as different parts of the country could now concentrate on the production of those goods for which they were best fitted. As Adam Smith declared in his famous book, *The Wealth of Nations*, the division of labour is limited by the extent of the market. In this respect, England was fortunately placed compared with the other principal European nations. In France, for example, internal trade was hampered by a multitude of tolls and seignorial dues, in spite of Colbert's efforts to unify the country into an economic whole. Not until the Revolution of 1789 were these

restrictions removed. Again, Germany was composed of about three hundred petty states each under its own prince. Trade from state to state was subject to tariffs and tolls for the princes. The unification of Germany, begun by the imperial customs union established under the leadership of Prussia in the 'thirties of the nineteenth century, was not really completed until 1870, after years of preparation by the "Iron Chancellor," Bismarck. In the eighteenth century England and Wales, with the addition of Scotland after the Act of Union of 1707, formed the largest free trade area in the world. Merchants could pass freely with their wares from one end of the country to the other, without having to pay tolls at different points, with the exception of some private bridges and turnpike roads. The importance of this for the industrial development of the country cannot be over-estimated.

We are told that cattle were driven all the way from Scotland and Wales to the meat-markets of London. They fed leisurely on the strips of grass at the roadsides, and were said to arrive at Smithfields in good condition. Geese travelled on foot "in prodigious numbers," from Norfolk and the other fen counties to London and other large towns. Defoe tells us that it was no infrequent occurrence to meet droves of five hundred to one thousand, and even more, on the roads. Sheep were sent from the mountain pastures of the west to fatten on the rich pastures of the Midlands. Cheese from Cheshire and Cheddar could be obtained at all the principal inns of the country, while Gloucester and Warwickshire were also famed for the quality of their cheese. The products of Gloucestershire were sent to Lechlade, and thence were conveyed by the Thames to the markets of Oxford and London. Poultry travelled in special carts of four stages "one above the other with the driver sitting on the topmost." These carts were known to travel one hundred miles in thirty-six hours, no mean feat, bearing in mind the conditions of road-travelling at that time. Different parts of the country became famous for their special brands of wool, the finest coming from Leominster, closely followed by North Wales, where Newtown and Welshpool were important wool marts. Suffolk became noted for its turkeys, Kent for hops, and the Severn valley for fruit. Farmers in particular reaped considerable benefit from the widening of the

market, and this was one important cause for the progress made in agriculture during the eighteenth century.

The increase in internal trade was not confined to agriculture. Defoe tells us that in his day "it took thirteen counties to dress a grocer's wife." This good lady was no longer dependent on cloth produced in her own locality but could command the special fabrics made in different parts of the country. Norfolk specialised in the worsteds, Yorkshire, Essex and Sussex in the woollens, the south-west in the thick woollen cloths, Wales in flannels and hosiery, Lancashire in cottons, Paisley and Glasgow in linens and cottons, Nottingham in lace and hosiery, London in silks. These districts could not have specialised without a wide market for the disposal of their goods, and a wide source of supply for their raw materials. Iron, smelted in the Weald and the Forest of Dean, together with that smelted by the new coke process at Coalbrookdale, the coal of Newcastle and Monmouth, the brassware of Birmingham, the cutlery of Sheffield, were among other goods that were distributed all over the country. Merchants, with their bales of cloth and packages of other wares, laden on the backs of pack-horses and mules, became so familiar as almost to pass unnoticed during this century. In fact, the growth of internal trade was so rapid and on such a scale that the existing means of transport and communication became hopelessly inadequate to cope with it, and, as will be described in a later chapter, their improvement became one of the most urgent problems of the period.

FOREIGN TRADE.—To return to the other branch of trade, namely external trade, by the eighteenth century, England was commercially on a par with, if not more important than Holland or France, the other two great commercial powers. As the century advanced these countries declined relatively to England, Holland because of her lack of internal resources, France because of her internal troubles culminating in the Revolution. Europe was also devastated by religious and dynastic wars during the 17th and 18th centuries. Though England was involved in three great wars, they were all fought off British soil, and they did not interfere seriously with her internal economic life. Her island position was of great advantage to her in these circumstances,

as it gave her freedom from invasion. She was near enough to Europe to reach the wide markets there comparatively easily, yet far enough away not to be involved in its domestic troubles. Her internal resources enabled her industries to grow rapidly, while her position relative to Europe and the growing markets of the west was ideal for commercial development.

But the age of big industry came after a period of rapid commercial growth. England was a great commercial power before she became the greatest industrial country of the world. It was the rapid growth of trade, particularly during the eighteenth century, that brought pressure to bear on the industrial resources of the country. England's selling power tended to outstrip her producing power. The merchants found increasing difficulty in getting goods fast enough to provide the growing markets. It must be remembered that industries were still, in the main, handicrafts, and while the volume of production depended on human skill, commercial progress was limited. To meet the commercial pressure, however, it was natural that attempts should be made to speed up production, and possibilities of aiding human skill by mechanical means were explored. Waiting markets were an incentive to industrial development. The age of machinery in England may thus be regarded as the climax of an age of commercial expansion.

THE EXTENT OF FOREIGN TRADE.—By 1700 the activities of English merchants were world-wide in extent, covering the whole of Europe and the greater part of the Far East and America. The European market was the most important, and large quantities of cloth and cereals went there annually, together with the colonial products, sugar and tobacco, and the produce of the East, which came to England for distribution. The ships returned with iron, shipping stores, timber, skins and furs from Russia, Scandinavia, and central Europe, with wines, dainty lace and cloths from France, and fruits and wines from Spain and the Mediterranean lands. Trade with France was in the main an illicit one, as imports from that country were either prohibited altogether or subject to heavy tariffs. The French trade, however, was the smuggler's paradise. This state of affairs continued until 1786, when Pitt concluded the Eden Treaty with France, placing the

trade between the two countries on a reciprocally low tariff basis. The operation of the treaty was interrupted by the Revolution, and by the outbreak of war between England and France in 1793.

Relations with Spain were on the whole more friendly. Trade with that country and her possessions was, it will be recalled, desirable from the mercantilist point of view, as she had treasure to export. In 1667 an agreement was concluded with Spain by which British merchants were again permitted to enter Spanish ports, and this led to a considerable increase in the trade. The subsequent wars with Spain interfered with the trade but by no means destroyed it. By the Treaty of Utrecht in 1713, two very valuable trading concessions, the *Assiento* Contract, were obtained from Spain. England was to have the right of exporting 4,800 slaves annually to Spanish America, and one ship of five hundred tons was to be allowed to convey cargo duty free for disposal at the Portobello Fair. The amount of trade actually done under cover of the *Assiento* was far in excess of these limits. By the same treaty England retained Gibraltar, which had been captured from Spain. This became a valuable trading port, and the Mediterranean trade benefited considerably. The trade with Portugal and her possessions in Brazil, Madeira and the Azores was helped by the marriage of Charles II to Catherine of Bragança, a Portuguese princess. The alliance was further strengthened by the conclusion of the Methuen Treaty with Portugal in 1703, by which Portuguese wines were allowed to enter England at favourable rates of duty, similar concessions being granted by Portugal for English cloth. The gentlemen of that time considered it patriotic to drink port wine in preference to the smuggled brandy, champagne and burgundy of France.

Trade with the Far East and with America made rapid strides from 1660 onwards. The former will be dealt with in connection with the East India Company. The trade with Spanish and Portuguese America consisted mainly, but not entirely, of the slave traffic, which brought, on balance, considerable quantities of bullion to England. Trade with our own colonies expanded as they increased in extent and population. England was their best market for sugar, tobacco and raw cotton,

while they took woollen and later cotton cloth in increasing quantities from the mother country.

THE CHARTERED COMPANIES.—The whole of this extensive trade was in theory parcelled out among the various companies which held charters granting them exclusive trading rights in their respective spheres. But their actual position became more and more precarious as their trade grew. As soon as outsiders, or interlopers, felt that trading with particular regions was profitable, it was practically impossible to keep them out. The changes of government during the seventeenth century did the companies no good, as their charters had to be confirmed to become valid. In the meantime the interlopers were not idle in taking advantage of their temporary insecurity. For instance, all the companies suffered damage during the Civil War, and though their charters were subsequently renewed after the Restoration, they had to conciliate the other interests which had entered their territories. Again, the position of the companies was very precarious in 1688, during the "Bloodless Revolution." By this time also growing pressure was being brought to bear on parliament to throw open all trade. The principle of monopoly was attacked, and interlopers organised to petition the government against it at every favourable opportunity. The companies frequently complained to parliament that the terms of their charters were violated. Very often the disputes were ended by a compromise, admitting rivals into the trade at nominal terms. The frequency and the violence of the quarrels give some indication of the growing importance and profitableness of foreign trade at this time. Although in theory the various spheres of trade were monopolised by privileged groups, in practice trade was virtually open to all merchants who cared to risk it, and the volume of trade done by the interlopers rivalled that of the chartered companies themselves.

THE EAST INDIA COMPANY.—Trade in the Far East, conducted mainly by the East India Company, made very rapid strides after 1660. Its activities extended throughout India itself, and to Persia and China. The Levant Company also attempted to develop the Persian trade, which included mohair, carpets and

tapestries. It got its commodities by the various caravan routes leading to that country. But it could not compete effectively with the East India Company, which was able to undersell it owing to the cheapness of the all-sea route in comparison with the land routes. The agents of the East India Company met native traders from all parts at certain centres which it acquired from time to time. These centres became regular and continuous marts which enabled the Company to control and direct the trade fairly effectively.

The products in which it traded increased in variety as its sphere of activity widened. Tea was introduced by the Company in 1660, after which it became a regular import. It came from China, along with porcelain, which was becoming fashionable with the gentry of the period. Some of the Chinese porcelain vases were really wonderful products of native craftsmanship. From Persia came the rugs and tapstries, while India itself supplied the spices, drugs, perfumes, precious stones, silks and dyewoods, the customary Eastern goods, together with chintzes, muslins, calicoes and other cotton fabrics, which the Company introduced after 1660. The plantations of America provided an important market for the cottons, while English people themselves began to use them, thereby rousing the violent opposition of the woollen interests in this country.

The East India Company was not free from the attention of the interlopers, in spite of its constant efforts to exclude them. Its charter required periodic renewal, and each occasion provided its rivals with an opportunity for attacking its monopoly. In 1688 it was in a very precarious position, and large sums were spent by the directors "on secret purposes." The probability is that most of the expenditure went in bribes to members of parliament. Corruption was rife at the time, and there were cases of almost open bidding for trading privileges. In 1698 another company was actually set up, and, in return for a large loan on advantageous terms to the government, it was promised the charter of the old company when it lapsed. This threw the whole trade into confusion. In 1702, an agreement was reached between the two companies to avoid competition in the East. This was followed, six years later, by their amalgamation, parliament regranting the charter of monopoly to the new com-

pany. Thus 1708 marks the year of foundation of that great East India Company which became such a powerful force in India, politically as well as commercially, during the eighteenth century.

The history of the Company in India itself was a very eventful one. Its depôts along the coast had to be well guarded owing to the danger of raids from natives, and, as the Company argued when defending its monopoly, the expenditure on defence was considerable. It acquired an important trading port when Charles II leased to it Bombay (part of Catherine's dowry) for ten pounds a year. This quickly became one of its most important centres. In 1687, the seat of the presidency was moved there from Surat, owing to the outbreak of serious disturbances in the latter place. Charles also empowered the Company to raise and maintain its own troops to defend its trade, and, if necessary, to make war on native princes. Gradually, from being a purely trading company, it assumed political powers in India, acquiring its own territory, maintaining its own army, collecting revenue and gradually becoming responsible for law and order over an increasing area. In the middle of the eighteenth century, during the Seven Years War, India became one of the seats of war between England and France. A French company had been founded to trade with the East, and had established trading posts on the mainland. It was a clerk in the employ of the East India Company, Robert Clive, who was the victorious general at the battle of Plassey, which destroyed the French power in India. The Treaty of Paris, which ended the war in 1763, recognised British supremacy in India. By that time the East India Company was a territorial power, virtually ruling over a country many times the size of the British Isles. Its clerks, trained at the college which it established in England, went out to India as administrative as well as commercial agents. In the meantime, opposition to its monopoly became acute, and the government became more and more reluctant to renew its charter. Finally in 1833, the trade was thrown open and the responsibility for the administration of India was transferred to the British Government. India became part of the British Empire. The officials of the East India Company were replaced by civil servants, and its troops by the British Indian army.

OTHER TRADING COMPANIES.—Trade with the Near East was conducted by the Levant or Turkey Company, which brought to England the wines and fruits of the Mediterranean lands, taking out sugar, tobacco, cloth and wool, for which there were important markets in these regions. This trade was also thrown open in the early nineteenth century.

The Baltic trade was in the hands of the Eastland Company, which made rapid strides in the seventeenth century. The Company took every advantage of the decline of the Hanse merchants, and captured much of their trade in these regions. The Muscovy Company was re-admitted into Russia in 1660, but, competing on level terms with the Dutch, the Company made only very slow progress. The trade with Africa was re-organised in 1672, when the Royal Africa Company was founded to exploit it. It concentrated its activity chiefly on the slave traffic, a trade in which interlopers were uncommonly active. The Company met with very varying fortunes, like its predecessors, and when the trade was thrown open in the latter half of the eighteenth century the Company had virtually ceased to exist.

The Hudson Bay Company was another important joint stock company which was founded in 1670, to carry on trade with northern Canada. The Company kept its privileges until 1869, when it ceded them to the Canadian government, although it continued to trade in a corporate capacity.

Mention should also be made of the famous South Seas Company, founded in 1711, to develop trade with the South Seas. In return for a huge loan to the government, this company was granted the *Assiento* clauses of the Treaty of Utrecht by the crown. Visions of dazzling profits in the trade produced a wild burst of speculation in its shares, and the company collapsed after a short but feverish existence. The "Burst of the South Sea Bubble" brought ruin to many thousands of speculators. It was a financial crash of the first magnitude, involving other companies beside itself. Incidentally, however, the speculation that led to it proves that there must have been a considerable amount of capital investment in the early eighteenth century. Investment in commercial undertakings was very attractive at the time, a proof of their profitability.

COLONIAL EXPANSION.—Side by side with this expansion of commerce, there took place after 1660 a steady growth of the colonies, territorially and in population. During the reign of Charles II, Carolina (later split into the two Carolinas) and Pennsylvania were founded, followed by Georgia in the reign of the first George. By the Treaty of Utrecht England retained Gibraltar, Minorca, the Hudson Bay Territory and Nova Scotia.

In the meantime, the French had founded important settlements in Canada, and were penetrating into the mainland by way of the St. Lawrence and the Great Lakes. Quebec had been founded in 1608, followed by Montreal in 1642, both of which became important fur trading stations. North of the French possessions the Hudson Bay had been discovered in 1607 by Henry Hudson, an Englishman, and, as already stated, a company was formed for trade in this region in 1670. As might be expected, there ensued bitter rivalry between French and English in Canada. The New England States, in particular, regarded the French penetration of the mainland with growing uneasiness. When the Seven Years War broke out in 1756 between France and England, the French possessions in Canada were attacked. The American colonies raised troops to assist the mother country, and George Washington gained his first experience of warfare during the campaigns in Canada. Just as Clive's victory broke the power of the French in India, General Wolfe's famous victory and capture of Quebec destroyed it in Canada. By the Treaty of Paris, England gained the whole of Canada and the greater part of the West Indies. Thus 1763 may be regarded as the culminating point of the British Empire up to that time. The British possessions now included Virginia, Maryland, the Carolinas, Georgia, the New England States and Canada on the mainland of America, the greater part of the West Indies, India, Gibraltar and Minorca. The war just ended also confirmed her title as "The Mistress of the Seas."

The friction between the mother country and the New England States came to a head a few years later. It is probable also that the removal of the French menace in the north made them feel less dependent on England for protection. When the American colonies revolted in 1776, England's late enemies supported them. While she was successful in Europe against

France and Spain, she suffered defeat in America. The treaty of 1783 gave the American colonies their independence, and they confederated into the United States of America. Thousands of loyalists migrated over the new border into Canada, going mainly into the provinces of Ontario and Quebec, the development of which benefited considerably as a result.

COLONIAL TRADE.—Already by 1660, colonial trade was becoming quite important to England. The next hundred years proved to be a period of almost continuous expansion owing to the internal development of the colonies themselves and to the rapid increase in their population. Valued at first almost entirely as sources of supply they became more and more important as markets for English manufactured goods. The most important colonies from this point of view in the eyes of English merchants were those situated in the tropical and sub-tropical areas, namely, the southern colonies of America and the islands of the West Indies. Increasing quantities of sugar, tobacco, rice and cotton came from them, while they imported from England growing quantities of woollen and cotton cloth, together with large numbers of slaves annually transported there from Africa by English slave-traders. The fish, timber and cereals of the northern colonies might be shipped to any market, but the products of the south and the naval stores of the north were specially enumerated for shipping to England under the Navigation Acts. An elaborate system of registration existed for this purpose. Shipowners could be compelled to give bonds for carrying their cargoes to destinations approved by the government.

Impatience with the Old Colonial System was one of the chief causes of dispute between the colonies and the mother country. When the American colonies gained their independence, it was at first thought that the trade would suffer. The loss of the New England States was not much regretted at the time, as they did not contribute much to the trade of England, but it was different with the South. England, of course, retained the islands and that trade was unaffected. As events proved, the other trade also did not suffer. England still remained their best market, and their cheapest source of supply for manufactured goods. The volume of trade actually increased, which was taken by some

contemporaries as a condemnation of the whole mercantile system. There was already a steady movement on foot among the mercantile and manufacturing interests in England for a removal of all restrictions. As will be described later, by the middle of the nineteenth century the mercantile system, including the colonial regulations, was swept away, and its place taken by economic liberalism, which brought a change of commercial policy towards free trade.

CHAPTER III

BANKING AND INDUSTRY DURING THE EIGHTEENTH CENTURY

THE RISE OF BANKING.—The development of banking is of comparatively recent origin in England, and was a sequel to the accumulation of wealth made in commerce. The origin of capital in England, and indeed in other European countries, may be traced to commerce. Wealthy merchants have frequently turned their attention to finance, including banking and exchange, finding it profitable as financial middlemen to finance other people's undertakings.

Without going further back, there was a well-developed system of banking in the great Italian cities of the Middle Ages. Florence was perhaps the most important from this point of view ; merchant bankers from that city specialised in accepting bills of exchange, insuring ships, receiving deposits and advancing loans on pledged securities. The cities of the Low Countries were also well known for their bankers at this period. Bruges, Ghent, and Brussels, to take a few examples, were entrepôts of commerce, and financial middlemen appeared there to supply the merchants with credit facilities. In the sixteenth century Amsterdam was the money market of north-western Europe, while Antwerp, the international mart until it was sacked by Philip of Spain's troops in 1590, was almost equally important for its banks and the Bourse. The banking operations of the fabulously wealthy Fugger family extended all over Europe, financing princes, wars and commerce.

England, however, lacked a system of banking until the middle of the seventeenth century, although its beginning may be traced to a period at least a century before that. During the rising commercial prosperity of the sixteenth century the absence of a system of banking in England was a source of great inconvenience

to the merchants, who had to resort to the continental banking houses for credit facilities. The same was true of the Tudors. Henry VIII and Elizabeth borrowed extensively from Antwerp.

Throughout the Middle Ages, lending money at interest, or usury as it was then called, was condemned by the Church. The Church exercised considerable influence over the policy of kings, and in England, the Usury Laws made illegal the practice of lending money at interest. Yet money-lending was practically universal, and the rates of interest charged were very high compared with modern ideas. Even the Church had financial dealings involving the payment of something closely akin to interest, and was forced to recognise that where the lender undertook a risk, such payments were justified. Usually, however, the loan was made against a deposited pledge, and the interest "hidden" as it were either in a charge for looking after the pledge or in the price demanded for redeeming it. Such transactions were thus similar to those of modern pawnbrokers. The Lombards, who came to England originally as the financial agents of the Papacy, engaged extensively in this work, and their influence survives in the name "Lombard Street," and in the pawnbrokers' sign, the three brass balls, which was their emblem.

In 1545, the Usury Laws were repealed in England, and an act was passed fixing the maximum rate of interest to be charged at ten per cent. Thus money-lending was legalised, and could henceforward be done openly. A specialised class of money-lenders, or financial middlemen as they would prefer to be called, appeared. True, the old laws were restored by Mary, but again under Elizabeth, the act of Henry VIII was re-enacted. Subsequently the legal maximum was lowered by stages. In the time of James I it was six per cent. where it remained until Queen Anne's reign, when it was lowered to five per cent. The acts were finally repealed in 1854, after which the rate of interest was left entirely to the workings of competitive forces.

The first step in the development of banking may be said to have taken place when money-lending was legalised, since the lending of money is one of the primary functions of a bank. With the almost continual expansion of trade the demands for credit increased, and the money-lenders' business grew. They were held in much contempt by their contemporaries as people

who made profits by merely financing others who took the risks of trade and industry ; yet they were universally used. Among the foremost of the money-lenders of the period were the scriveners, who lent to clients for whom they drew up agreements. But it is almost safe to assume that practically all people who had money to lend engaged in that profitable business.

Growing trade again meant increasing wealth for the merchant classes. As already pointed out, some of this wealth went in buying estates of impoverished noblemen, many merchants thus becoming owners of extensive landed estates. Apart from the purchase of land, opportunities for investment were rare, and the rich were at a loss to know what to do with their surplus wealth. Cash was either stored in chests or converted into articles of value, like gold and silver plate. The ownership of "family plate" conferred social prestige in the age when such possessions were universal among the wealthy. Sir Thomas Gresham, a very famous merchant of the sixteenth century, also financial agent to Queen Elizabeth, for whom he effected many foreign loans and repayments, converted his surplus cash into gold chains. The wills of the period throw an interesting light on this. They were, in effect, lists, frequently long ones, of goods of value which formed the wealth of the testator. To-day a man's personal possessions usually form a minor part of his estate, the bulk being made up of stocks and shares, bank deposits, etc. Merchants were also in the habit of employing special apprentices as book-keepers. These were frequently in charge of their masters' cash, and some of them made quite an appreciable income by lending out the money (often without the owners' consent it must be confessed) at a daily rate of interest, a common charge being fourpence a day per cent. Readers of Samuel Pepys's diary will remember that he kept his cash in a large iron box. At least on one occasion, during the Great Fire of London, he buried this box in the garden, and, feeling uneasy about it, he got up in the middle of the night to make sure it was safe. Merchants found the vaults of the Tower of London a secure place for their surplus wealth until Charles I raided it. Although he was prevailed upon to restore the treasure, the Tower was no longer trusted. It was a case in those days of "uneasy lies the head that owns a hoard." These were the conditions that led

to the development of the second stage of banking—that of depositing wealth with people who could then re-lend it.

THE GOLDSMITH BANKERS.—The first to specialise as bankers in this country were the goldsmiths. They had been money-lenders in the sixteenth century, if not earlier, while they were also money-changers and assessors, two very important functions when we remember that a good deal of foreign coinage circulated in England. Elizabeth used them to assist in the great re-coinage of 1560. They had been closely connected with the money side of the economic life of the country, since at least the first part of the sixteenth century. Their emergence as bankers occurred in London during the Civil War, and it has been explained in a much-quoted pamphlet published in 1676, called *The Mystery of the New-fashioned Goldsmiths or Bankers*. The author of this pamphlet traces their rise to the following sequence of events. During the war, the gentry of both sides freely melted down their gold and silver plate, to provide funds for their respective sides. After the war, the practice of keeping large quantities of plate did not revive, probably owing to the impoverishment of the landed aristocracy. The goldsmiths thus found their normal business rapidly dwindling, and many of them concentrated on money-lending. At the same time, some wealthy merchants began to deposit their valuables in the strong-rooms of the goldsmiths (a fact easily explained by the insecurity of the period). The goldsmiths found on experience that only a fraction of the deposits was withdrawn from day to day by their clients, to meet their current expenses, the greater part remaining idle in their vaults. There was nothing to prevent them lending out these deposits, so long as they kept a reserve adequate for all daily "calls" likely to be made on them. There is no reason to doubt this account, at least in its main points. In any case, at the Restoration, there were many goldsmith bankers, some of them already of considerable wealth and repute, established in London, and it is known that Cromwell had made extensive use of them. These goldsmiths performed the two main functions of modern banks, namely, the lending of money and the receiving of deposits, part of which they used in their money-lending transactions. It proved a very profitable business for them, and

filled a long-felt need for the wealthy commercial classes. At first the goldsmith bankers made a small charge for looking after the valuables. In order to attract business, more and more favourable terms were offered by rival bankers to induce the wealthy to deposit their coin and other valuables with them. Their agents used to meet the coaches at the London termini to solicit business for their masters, a fact about which many people complained. In the course of a few years, the goldsmith bankers undertook the care of deposits for nothing, which they could well afford to do since they received interest on what they lent. Finally they offered clients interest for their deposits, at a rate somewhat lower than that which they charged for loans, the difference constituting their profit.

The use of the cheque developed very early in banking history. Merchants found it convenient to settle their debts by a written order, which they gave their creditors, authorising their bankers to pay the required sum from their deposits on the presentation of the order. The modern cheque is merely such an order written on a form prescribed by the bank.

In the course of a generation or so London possessed a fairly extensive system of banking, and many of the goldsmith bankers established there were men of national repute. The growing demand for credit owing to the expansion of trade, and the extensive borrowings of the government contributed to their rapid rise. Their connection with banking survives in the modern pawnbrokers, who usually combine the business of goldsmith with money-lender.

THE BANK OF ENGLAND.—The greatest of all English banks began its life in 1694. It owed its foundation to the financial difficulties of the government of the time. England was then engaged in the long and costly war against Louis XIV, and the annual expenditure far exceeded the revenue of the country. William III had only been on the throne for just over five years and it was by no means certain that the Revolution of 1688 would be permanent. Thus, with the ever-present danger of a Stuart restoration, and owing to the fact that there were considerable loans outstanding, the credit of the government was very weak. Every known expedient had been tried to raise

funds, but, in order to continue the war, the government was still in urgent need of a large loan. A Scotsman named William Paterson suggested that a syndicate of financiers should provide such a loan in return for sanction to found a joint stock bank in London. A city merchant named Godfrey worked out the practical details of the scheme, and the Chancellor, Montague, undertook to get it through Parliament. In the Finance Bill for 1694, there was a clause authorising the government to borrow the sum of £1,200,000 at eight per cent. interest. There was no provision for the repayment of the capital sum, merely that the interest should be paid annually together with £4,000 to the lenders for the expenses of managing the debt. A further clause permitted "The Governor and Company of the Bank of England" to start a bank in London.

The loan was quickly subscribed, and the company began operations with Paterson as its first governor. Its charter, which extended for fifteen years, allowed it to receive deposits from the public at four per cent., to carry on all the normal banking operations, and to issue notes to the extent of the interest on the government debt. The government went to it for further loans in the following years; in fact, it became too ready a means for government borrowing. In 1708, its charter came up for renewal; in the new charter it was given a monopoly of joint stock banking for the country, a privilege which reflects the extent to which the government was already indebted to the Bank. Later renewals of its charter became almost automatic, until as will be described later, important modifications were introduced into the banking system during the first half of the nineteenth century.

The Bank was popular with the public almost from the beginning, although it passed through some very critical times in its early history. Apart from the risks entailed in starting a new enterprise, it was subjected to bitter attacks from its enemies. The goldsmith bankers, jealous of its charter and its relations with the government, and fearing its rivalry, tried to ruin its reputation by an agreement among themselves to "corner" its notes, and present them in concert to the Bank for cashing. They knew that the notes were only partly covered by cash, and that a sudden demand for a large amount of cash would find the

Bank unable to meet it. The governors, however, heard of the plot, and saved the situation by the simple expedient of securing government sanction beforehand to refuse to cash the notes if it was thought necessary. The landed gentry were by no means friendly to the Bank of England, which they regarded as an instrument in the hands of the commercial classes to strengthen their power in the country. The landed interests in parliament succeeded in getting a bill passed to sanction the establishment of a rival bank, which was prepared to make advances only on the security of the land. The scheme did not come to anything, as it failed to secure sufficient capital to start operations. Again, the Jacobites regarded the new bank as an obstacle to a future restoration of the Stuarts, since its interests would be bound up with the new government. Hence they regarded it with extreme disfavour.

The Bank, however, weathered these early storms successfully, a tribute to its financial strength and security. Its reputation was much enhanced after the financial crash, the "Burst of the South Sea Bubble." Throughout the period of wild speculation that preceded the crash, the Bank kept its security intact, and when the crash came it had little difficulty in meeting all its obligations. This inspired greater confidence among its clients and attracted more business to it. It grew steadily in reputation and importance throughout the eighteenth century, and by the beginning of the following century it was already becoming the central institution of the London money market.

COUNTRY BANKS.—The Bank of England, until the nineteenth century, confined itself almost entirely to London, only transacting that country business which came through London. In the meantime, new industrial centres were growing up rapidly in the provinces, particularly in the northern counties, the Midlands, and in South Wales. The growth of industry and commerce created in these areas an urgent need for banking and credit facilities. When we remember that means of transport and communication were very imperfect, it is obvious that London was too far away to serve these places effectively. Hence banks were established in practically every town of any importance in the course of the eighteenth century. The monopoly of joint

stock banking enjoyed by the Bank of England prevented the growth of joint stock banks in other parts, and the country banks were set up by individuals either singly or in partnership with a few others. Wealthy business people who possessed a local reputation, or prominent merchants who kept banking accounts in London and who undertook to settle the accounts of other people in their locality through a draft on their own banks, set up as bankers when they found that it was a profitable venture. They received deposits at interest, lent money, and issued notes. By the end of the century there were hundreds of these private banks, spread all over the country, most of them being established subsequently to 1760. Although many of the private bankers were men of integrity and considerable business ability, running their banks on sound principles, the whole system was open to grave abuses. The chief danger was the over issue of notes. It was a great temptation, as long as the public had confidence in the bank, to go on issuing notes beyond the point of safety, as it was a source of considerable profit. This occurred very frequently, with the result that, owing perhaps to a sudden trade depression, industrial crisis, or the spread of a rumour that the banks' credit was shaky, when a "run" occurred on the banks concerned, they failed to meet their notes in cash as they had neglected to maintain an adequate reserve for the purpose. Bankruptcies among the private banks were very numerous at times of crisis, and the unfortunate depositors and holders of their notes had to face the losses. For this reason, it became necessary in the following century to institute a system of government control over banking in order to check the worst abuses.

THE RESULTS OF BANKING.—It is no exaggeration to say that without some system of banking the Industrial Revolution could not have taken place. It is difficult to see how the expansion of commerce could have occurred without the banking and credit facilities obtainable in London, and how the new centres of industry could have arisen without local facilities for banking. Immense amounts of capital were required to finance industrial and commercial undertakings, to construct the turnpike roads and canals and to assist inventors. Hitherto the scarcity of capital had been one of the main obstacles to the economic

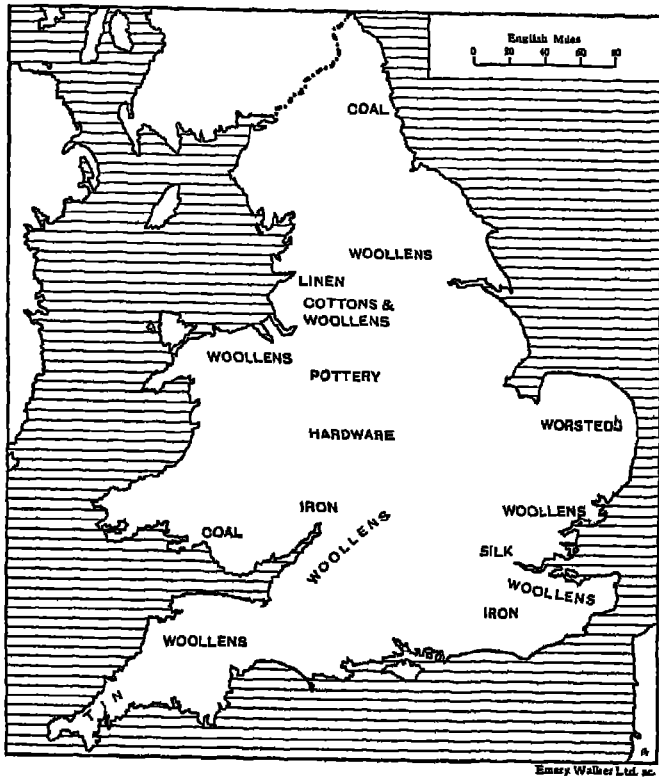
development of England, and one reason for that scarcity was the practice of hoarding savings, which was universal before the age of banking. The existence of banking made hoarding not only unnecessary but unprofitable, and when people deposited their savings in the banks, these became available for investment in industry and commerce. In other words, banks helped to mobilise the savings of the community. They also provided credit facilities for the business men, enabling them to undertake enterprises which would have been otherwise exceedingly difficult, if not impossible for them. Their notes also provided a welcome addition to the currency, just when more currency was needed owing to the growth of population and increasing economic activity of the country. The foundation of the Bank of England, in particular, was destined to have far-reaching results. Although it owed its existence mainly to political reasons it was the economic life of the country that was most influenced by it. It helped the government out of temporary financial difficulty, but as a bank it was used chiefly, even from the beginning, by the investing and business world. In course of time, it became so closely linked up with the finances of the country, and with the other banks, that it was recognised as the central institution of the money market. It became the guardian of the nation's reserve of gold, and the institution which was mainly responsible for guiding the financial policy of the whole country. The beginning of the national debt was one result of government borrowing from the Bank. In the course of the eighteenth century, this assumed such huge proportions that the payment of interest and the gradual repayment of the debt became one of the most difficult problems of our successive Chancellors of the Exchequer. In spite of their efforts, the debt continued to mount up, and to-day it is reckoned in thousands of millions. As we shall see later, this had important consequences on the taxation system of the country.

THE GROWTH OF INDUSTRY.—The expansion of commerce and the rise of banking which have been described above indicated a speeding up of the economic life of the nation. The pressure of commerce, as already indicated, produced a growing demand for British goods, while increasing wealth and trade stimulated

the development of banking and credit. Spain had tried to monopolise the wealth of precious metals from America, but had failed because her internal development did not keep pace with the growth of her colonial empire. Holland was the greatest commercial country in the seventeenth century, but her commerce was not built on really sound foundations. It was almost entirely made up of the carrying trade for other countries. France, especially under Colbert, made rapid strides in her internal development, and during the eighteenth century she was England's chief rival, commercially and colonially. In England a considerable industrial development occurred before the age of machinery, and what the merchants were exporting was mainly composed of manufactured goods. Commercial capital went into industry, the merchant under the domestic system being in effect the organiser who provided the raw material and the payment for producing the finished articles. It was principally capital made in commerce that was also put into banking, and merchants specialised as financial middlemen. After the great inventions of the late eighteenth century there occurred the specialisation of industrial capitalists, men who founded great industrial undertakings, and much of this capital may be traced to wealth made in commerce. The expansion of commerce thus had important consequences for the country. Expanding markets were the incentive to greater production, and the profits made in trade provided the capital which made greater production possible.

THE CLOTH INDUSTRY.—The manufacture of woollen cloth remained, until the end of the eighteenth century, by far the foremost of our industries. It included a good variety of worsteds, woollens and flannels, which provided work for hundreds of thousands of people all over the country. Great importance was attached to it as the basis of our commerce, the foundations of our prosperity and the means of livelihood for a big proportion of the population. The industry, which had already benefited considerably from the immigration of aliens in the fourteenth and sixteenth centuries, received a further stimulus from the immigration of the highly-skilled Huguenots from France following the revocation of the Edict of Nantes, in 1685, which

destroyed the religious toleration they had enjoyed for nearly a century. England gained greatly from the capital and skill which they brought with them. Their influence extended not



MAP OF ENGLAND AND WALES SHOWING CHIEF INDUSTRIES IN
THE EARLY EIGHTEENTH CENTURY

only over the woollen industry but also over cotton, linen and silk.

The industry was still sheltered by the protective policy of the government. The export of wool and the import of foreign cloth were prohibited in the interests of home producers. When cotton

piece goods began to be imported into England by the East India Company, fears were expressed, not without reason, that English people would take to wearing cotton fabrics to the detriment of the woollen industry. So strong were the woollen interests, and so important did the government consider the industry, that laws were passed in 1700 and 1720, prohibiting the wearing of pure cotton goods in England. Cloth made of mixed cotton and wool, quite an important manufacture, was not included. These acts remained in force until 1774, by which time cotton cloth-making was a home industry, but the prohibition of the import of cottons, except for re-export, was continued.

Although cloth was still made in practically every county in the country, the industry was becoming concentrated in three great areas, the West Riding of Yorkshire, Norfolk, and the West Country, including Somerset, Worcester, and parts of North Wales. Yorkshire specialised in woollens, Norfolk in worsteds, and the West in flannels. As the century advanced, the industry decayed in Norfolk and the west, and Yorkshire became the principal woollen manufacturing county. The supremacy of Yorkshire was firmly established when the manufacture of cloth became a factory industry.

So rapid was the growth of the industry, even before 1760, that home supplies of wool ran short, and had to be supplemented by imports, mainly from Spain. The dependence on imported raw material, was, of course, increased, when large-scale factory organisation multiplied the output of cloth.

OTHER TEXTILES.—Reference has already been made to the cotton industry. This was probably introduced into England towards the end of the sixteenth century by immigrants from the Low Countries. Little, if any, pure cotton goods were made, beyond some coarse fabrics, but the term "cottons" covered cloths made from cotton mixed with wool or linen. Of these, a considerable quantity was manufactured, particularly in Lancashire and parts of Yorkshire, and about two million pounds of the raw material were imported annually from the West Indies, America and India. The last named was the source of the fine cottons and the printed calicoes, in which a thriving

re-export trade grew up in the country. The industry was not a serious competitor to wool ; in fact some difficulty was experienced in getting spinners for cotton, because the people were more accustomed to wool which was also paid at a higher rate. The collapse of the Mogul Empire in India, and the outbreak of internal civil disorder that followed it, threatened to interfere with the now profitable cotton trade of the East India Company. This led to a stimulation of the industry in England ; but it was not until the coming of machines that the relatively dear labour of this country could compete with that of India. After 1760, however, the industry made very rapid strides, and by the end of the century Lancashire was the greatest cotton cloth-producing region in the world.

The manufacture of linen was another important industry, especially in parts of Yorkshire and Lancashire, the Lowlands of Scotland and Northern Ireland. The origin of this industry has also been traced to immigrants, particularly Huguenots. Linen, however, suffered from the competition of cotton, which was much cheaper and served the same purposes.

In the early eighteenth century, a good deal of silk was manufactured in London and in some of the eastern counties. It is interesting to note that some of the early textile inventions, those of Lewis Paul, for instance, were applied to the spinning of silk. French and Italian immigrants, who came over at the end of the seventeenth and the beginning of the eighteenth century, were of material assistance to the industry. But owing to the greater efficiency and cheaper production of countries like France and Italy, silk manufacture did not become really important in this country.

OTHER INDUSTRIES.—Among other industries which became prominent in this period were the manufacture of cutlery in Sheffield, particularly after the invention of Benjamin Huntsman for making high-grade steel in 1735, the hardware, brass and copper industries of Birmingham, and the making of pottery in Staffordshire, Devon, and Cornwall.

Finally, there were the coal and iron industries. These made such rapid progress during this century that their growth will be described in the next chapter.

CHAPTER IV

THE COAL AND IRON INDUSTRIES

COAL-MINING.—During the seventeenth century coal-mining made little progress, as the demand for coal was still restricted to domestic purposes in the larger towns. In addition to the Newcastle area, coal was worked in small quantities in Lancashire, the Midlands, and South Wales, mainly for local use. But the discovery of new uses for coal during the eighteenth and nineteenth centuries completely altered its value, and made it the source of enormous wealth for the country. Experiments, which will be described later, were successful in substituting it for charcoal in the smelting of iron, and coal-mining became linked up with the iron industry. During the eighteenth century, steam power for driving pumps and machinery was discovered. In 1798 William Murdock, a workman trained by James Watt, and placed in charge of steam-engines at Redruth, succeeded in lighting his workshop with coal gas. In 1814 the streets of Westminster were provided with gas lighting, and gas-works spread rapidly throughout the country. The inventions of the steam-driven locomotive and steamship occurred early in the nineteenth century, and mechanical transport spread by leaps and bounds. The gas industry proved that coal contained very valuable gases, and other by-products, one of which, aniline, became the basis of the mineral dyes. This discovery led to the establishment of important chemical industries using these by-products from coal as their raw materials. All these discoveries created a growing demand for coal, which came to be regarded as "the black diamond." In 1700 little more than two million tons of coal were mined in the whole country. By 1800 more than ten million tons were raised, and the output rapidly increased, until by 1854 it was over sixty-four million tons, and by 1913, over two hundred and eighty-seven million tons.

MINING PROBLEMS.—The progress of coal-mining was impeded by several obstacles, which had to be overcome before the industry could be established on a scale sufficient to meet the growing demand. As the mines got deeper, dangers of flooding became greater, and thus methods had to be devised for getting rid of water. The "fire engine" was first invented in response to this need. The methods adopted in the sixteenth century had been very crude, consisting mainly of draining the water to the lowest parts of the mine, and allowing it to collect there. Sometimes it was raised by means of buckets as from a well. The most ingenious device was a chain of buckets, worked either by a horse or a water-wheel, the water being tipped out at the top and run by a trough into a pond. In 1712, Newcomen invented a steam pump to draw the water up, but it was not until James Watt improved the steam-engine, after 1775, that efficient pumps became available.

The problem of providing ventilation was an equally difficult one. Most coal-mines contained poisonous and fiery gases, and could only be rendered fit for workmen by forcing air into them. The earliest method adopted was the provision of two shafts on different levels, the air rising in one and being drawn down the other. The air from the down shaft was conducted through the mine workings by a system of trap-doors, which were opened and closed by boys and girls. This method proved inadequate for the deeper mines, and in order to create a stronger current, the air of the upshaft was heated. The danger of this was obvious, since the foul air leaving the mines contained a large percentage of fiery gases, and many explosions resulted. At the end of the eighteenth century, an exhaust fan was invented by Buddle, the coal-mining expert. The principle of this was to draw the foul air out of the mine by suction, which caused a current of fresh air to be drawn down the second shaft. In the following century, the exhaust fan was improved by strengthening its power of suction, and it was supplemented by air pumps fitted to the down shafts. At present very elaborate compressed air plants provide for the ventilation of the mines.

Explosions occurred only too frequently, leading to an appalling loss of life in the mines, the usual method of lighting being the naked flame of a candle or lantern. The Rev. John

Hodgson, who, on one occasion, lost over ninety of his parishioners in a colliery explosion, became the pioneer of a movement to establish "Societies for the Prevention of Mining Accidents," the first of which was set up in Sunderland in 1815. At the same time a famous judge, Sir John Bailey, pointed out the necessity for holding inquests into mining fatalities, and they were ordered by the government. Inquests meant an investigation of the cause of the fatality, which in turn stimulated inquiry into the future prevention of similar accidents, while they also served to attract public attention to the need for greater safety in the mines. Sir Humphry Davy was called in, and after a series of experiments, he succeeded in inventing the safety lamp which bears his name, the principle of which was a flame protected by wire gauze. The early results of the use of the lamp were disappointing, and it was not until its construction was improved, and better ventilation of the mines secured the dilution of the fiery gases, that mines became safer. The modern "Safety Lamp" is almost fool proof, and this, combined with other elaborate precautions, has resulted, fortunately, in explosions being rare occurrences.

MINING PROGRESS.—Experience in mining brought improvements in methods, while research into its dangers brought greater safety. Improved methods and greater safety were both essential for mining progress. Accidents were due as much to ignorance as carelessness, and England, being the pioneer mining country of the world, had to work out the problems as they arose. The early mining methods were crude and extremely wasteful, large pillars of coal being left to support the "roof," and mines being abandoned with large quantities of valuable coal still left, as soon as they became difficult to work. A more economical and scientific method of digging out the coal was imperative to supply the growing demand. This became the object of a new generation of mining engineers trained in this work. The land under which coal was known to exist was surveyed, and its geological structure carefully studied. The shafts were then sunk at the most advantageous points, and the mine-workings scientifically laid out, to ensure the minimum of waste. Methods were invented for reaching coal hitherto inaccessible, and for working seams

lying hundreds of feet under the surface. In this way, the mining industry has been continually improved, and engineers are still working on important problems connected with the industry, to make it less arduous, safer, and more economical.

TRANSPORT OF COAL.—One of the most difficult problems which had to be overcome was the transport of coal, not only from the pit head to the markets, but from the mine-workings to the surface. As the coal face receded from the bottom of the shaft, methods had to be adopted for moving the coal to the shaft, and then hauling it to the surface. One method was to carry the coal in baskets, but by the middle of the eighteenth century, it was usual to convey the coal in specially constructed tubs, or baskets, along light wooden rails. Heavy wear and tear necessitated frequent replacements of these rails, which were protected, for this reason, by iron plates laid over the wood. When the iron industry developed, at the beginning of the nineteenth century, the wooden rails were replaced by cast-iron ones. Thus it is interesting to note that railways existed long before the age of mechanical transport. Boys, and even young girls, were employed to push or pull these tubs along the tunnels, crawling on all fours to perform this very arduous work at very low wages. This became one of the greatest social evils of the industry, and an act of parliament was necessary in 1842, to put a stop to it. In order to raise the coal to the surface, some of the most up-to-date mines employed horses, the coal being wound up like water from a well. But it was difficult and expensive to get ropes strong enough for this work, and hence, the most frequent method was for women to carry the coal up to the surface by means of ladders fixed to the sides of the shaft. A woman was expected to carry up two tons a day, and the rate of pay for the work was very low, at the most about a shilling a day. The same act that ended child labour also stopped this practice. The real solution came with the application of steam-power to the hauling engine by Watt, in 1783. Steam-power had been in use for the best part of a century for pumping water out of the mines. Watt's invention however opened up a new era involving the replacement of human by mechanical power for hauling. The use of the new method spread very slowly at

first, and the old methods were still common in the fourth decade of the nineteenth century. It appears that one difficulty, as far as coal-mines were concerned, was the frequent breakages of ropes, and it was not until the wire rope was invented by Andrew Smith, in 1839, that this difficulty was overcome. At present, the movement of coal underground is the work of pit ponies, although some mines have small, electrically driven winding engines at various parts of the workings to replace ponies. All collieries are equipped with elaborate winding apparatuses for getting the coal to the surface, some driven by steam, and others by electrical power, the engines being capable of lifting thousands of tons a day.

The transport of coal from the pits to the markets was both difficult and expensive. It cost as much to send coal from Worsley to Manchester, a distance of twelve miles, as the price of the coal itself, while the transport to Liverpool was nearly forty shillings a ton. Where collieries were near the sea, or a navigable river, the problem was not so difficult. Hereford got its supplies of both coal and iron, cheaply, by the river Wye. The roads were useless for coal traffic, and where short stretches of road had to be used to connect the mine with a river, light railways had to be built for the purpose. Cheap transport was essential, and, as will be described in the next chapter, this need brought the canals to England.

SOCIAL CONDITIONS.—In the eighteenth and early nineteenth centuries, the social conditions in the mining villages were terrible. As the demand for coal grew and the coalfields were developed, these mining villages literally sprang up like mushrooms. Long hours were worked at the mines, and the work was both dangerous and extremely arduous. It is not surprising, therefore, that great difficulty was experienced in getting an adequate supply of labour. Colliers in Scotland were in a state of slavery or bondage, often being sold with the mines, until acts passed in 1775 and 1799 made the practice illegal. In England it was common to apprentice the pauper children to the mines, and to bind them to serve for a number of years after their apprenticeship. The employment of women and young children was almost universal.

THE MINES AND COLLIERIES ACT OF 1842.—In 1840 a Royal Commission was appointed to investigate the mining conditions, and its report disclosed such an appalling state of affairs, that public opinion was roused in favour of reform. The government, departing from its policy of non-interference in the economic affairs of the nation, passed the Mines and Collieries Act in 1842. This act prohibited the employment of women and girls underground, and raised the age limit for boys to ten years. Men were to be employed for responsible work like the supervision of winding engines, many accidents having resulted from boys being given this work previously. Mines were to be tested for fiery gases, and the worst mines were to adopt the methods and safety appliances used in the more up-to-date ones. Provision was also made for the appointment of qualified mining inspectors, who were to see that the act was carried out, and to make periodic reports to the government concerning mining conditions, suggesting improvements wherever possible. This act became the basis of a good deal of subsequent legislation designed to improve the social and working conditions of the mining towns and villages, to protect the miners, and to enforce the use of efficient means of ventilation and of safety appliances.

THE IRON AND STEEL INDUSTRIES.—The decline of the iron industry became very serious during the seventeenth century, and imports of pig-iron from Russia, Sweden and the colonies were necessary to supplement the home supplies. The depletion of the forests in the Weald resulted in a spread of the industry westwards, and important iron districts grew up in South Wales and Cumberland. Charcoal advanced in price, and landowners found it profitable to cultivate woods to supply the iron masters. The government also took steps to provide that for every tree cut down another should be planted in its place. The consumption of charcoal, however, was so enormous that these measures were quite inadequate to prevent its growing scarcity and rising prices. The development of the iron industry was therefore cramped, and only an alternative fuel for smelting could relieve the situation.

THE DISCOVERY OF COKE-SMELTING.—Many people experi-

mented with coal and peat to replace charcoal, but the iron made by using these was so impure that it was practically useless. Dud Dudley patented a process for the use of coal in 1621, but it was not a commercial success, and in any case the discovery died with him. It was not until nearly a century later, in 1709, that success was finally achieved by Abraham Darby, at his ironworks in Coalbrookdale. Darby, who came from a family of iron-masters, was born at Sedgely, near Dudley, in 1676. When he was twenty-three years of age, he set up as a brass and iron manufacturer in Bristol. There he improved enormously the art of casting iron in moulds, mainly by the aid of skilled casters, whom he brought over from Holland in 1704. In 1708 he took over some iron furnaces at Coalbrookdale (Salop), and it was there that he made his momentous discovery which helped to revolutionise the iron industry. He succeeded where others had failed by first coking the coal, coke, like charcoal, being almost pure carbon.

The process was kept a family secret. In fact, it was believed until quite recently, that it was not discovered until 1735 by the son of Abraham Darby. This method of manufacture was thus almost confined to the works at Coalbrookdale, and charcoal iron continued to be manufactured for another century, the last charcoal furnace not being abandoned in Sussex until 1827. There were other reasons for the slow spread of coke-smelting. Charcoal iron was rather better in quality than coke iron, and it had a long tradition behind it. The iron-masters, charcoal-burners, and owners of woods, also resisted the new process, which would be detrimental to their interests. The struggle between the two was bound to end in favour of coke iron, especially when the quality of this iron was improved by experience. The use of a stronger blast, which the steam-engine made possible, considerably improved the quality of iron made by the new process.

Darby's process only applied to the first stage of the iron industry, namely the smelting of the ore into pig-iron. Pig-iron was suitable only for castings, and by far the biggest demand was for wrought or malleable iron, which was manufactured by a process of refining pig-iron. This still depended on charcoal, and required more of this fuel than smelting. It could only be

made in small quantities at the forges, and until a method was discovered for manufacturing it on a large scale, without the use of charcoal, the iron industry could not make any real progress. This problem was solved by Henry Cort.

THE INVENTIONS OF CORT.—Cort was born at Lancaster in 1740. In 1775 he set up as a wrought-iron manufacturer at Fontley, near Fareham (Hants). From the first he experimented with coal as a substitute for charcoal in his forge, and, within ten years, he invented processes which revolutionised the iron industry. The treatment of wrought or bar iron, included beating it out with heavy hammers, while in a semi-molten condition, a process which took enormous time, and which consumed large quantities of fuel owing to the necessity of constantly reheating the iron. In 1783, Cort discovered a method for rolling out the iron, by passing it between a series of rollers which were arranged with diminishing gaps between them. This was infinitely quicker than beating, and enabled much larger quantities to be handled at the same time. Later, grooved rollers were used to roll out iron rails on the same principle. The following year, he followed up his work by using the reverberatory furnace (which had been invented twenty years earlier) for converting pig-iron into malleable iron. This furnace was so constructed that there was no contact between the fuel and the metal, only the flames being allowed to beat down on the pig-iron contained in a basin-shaped vessel at the base of the furnace. Workmen used long poles to puddle the iron, and hence the process was called "puddling." The metal was first reduced to a pasty mass, which the men worked into large balls, weighing about eighty pounds, these balls being then taken to the rolling-mills. The reverberatory furnace enabled coal to be used instead of charcoal, while it also made possible the refining of pig-iron on a large scale. These two inventions opened out a new era for the iron industry. The fuel problem was now solved by the abundance of coal. The iron industry was severed completely from its dependence on charcoal, and in consequence it migrated from the forest areas to the coal-fields of South Wales, the Midlands, and Northumberland. The iron made by these processes was so cheap, and its quality was so good, that imports of iron from Sweden fell away

rapidly, and England began to be an exporter of iron instead. By the middle of the nineteenth century, she became the forge of the world. The cheapening of iron, and its vastly increased supply was followed by its growing use, and a new generation of mechanical engineers appeared, who, by their inventions, made iron, and later steel, indispensable to modern industry. The first iron bridge constructed over the Severn in 1787, was such a great success that its use for this purpose became quite common. Iron also became essential for the construction of steam-engines, of machinery driven by steam-power, of railways, locomotives, and steamships. A strong durable material was added to the service of mankind.

FURTHER IMPROVEMENTS.—The pioneer work of Darby and Cort proved to be only the beginning of a great era of progress in every branch of the iron industry. Various improvements in the construction of furnaces enabled these to be built on a bigger scale to hold increased charges. At the great Carron Ironworks in Scotland, Dr. Roebuck was successful in substituting coal for coke, by increasing the strength of the blast. This saved a great deal of time, and incidentally increased the heat of the furnace. Another Scotsman, James Neilson, a colliery engine-wright, recommended the heating of the blast before it entered the furnace. At first, manufacturers refused to try the experiment, fearing an explosion, but in 1828, Neilson was given his chance. The "Hot Blast Process" proved a great success, cutting down the consumption of coal to nearly half, thus further reducing the costs of production. Ten years later, the waste heat escaping from the top of the furnace was used to heat the blast, a further important economy in the consumption of coal being effected. In the later stages of manufacture, the art of casting iron made rapid strides, the foundry taking the place of the forge, the moulder replacing the blacksmith. The casting of iron in sand moulds made possible the use of iron in the construction of things which the blacksmith could not possibly attempt, besides enormously speeding up the process of manufacture.

STEEL—HUNTSMAN.—The manufacture of steel may be taken as the third stage of the iron industry, since steel is merely iron

combined with a certain amount of carbon. For the making of cutlery and various weapons of war, even the best iron is unsuitable. Steel is more durable, harder and more ductile than iron, and its properties enable it to be polished and sharpened. The art of making steel by a method called the cementation process was known in the Middle Ages. Bars of malleable iron were converted into steel by heating and reheating them in contact with charcoal (lumps of which were pasted on the iron), until the requisite proportion of carbon had been absorbed. This was a tedious and expensive process, and the steel varied greatly in its quality. A Sheffield clockmaker, named Benjamin Huntsman, owing to his difficulty in getting steel of a suitable quality for his work, undertook experiments to manufacture his own metal. About 1740 he succeeded in producing steel of a uniform quality by the crucible process, which consisted of re-melting the iron in a crucible, and adding to it the required amount of carbon. This method proved a great advance on the older one, and steel of a much superior quality was secured. Huntsman failed to keep the process secret, and it was copied by at least three other manufacturers. The best German, Swedish and French steel could not compete with crucible steel, so that not only did England cease to be an importer of steel but she became an exporter. Sheffield also became the world-famed centre of the cutlery industry.

The Huntsman process, however, could only produce steel on a very small scale, and great care was necessary in the manufacture, many charges being spoilt by too much or too little carbon. Steel, therefore, was very expensive, costing four or five times as much as the best iron. Its use was confined to luxury articles for over a century, until methods were invented for manufacturing it cheaply on a large scale.

THE BESSEMER PROCESS.—The next great name connected with the steel industry is that of Henry Bessemer. Bessemer's father escaped from France during the Revolution of 1789, and became a type-founder near London. His son Henry was born in 1813. As a young man he displayed a wonderful aptitude for invention. At the age of twenty, the Royal Academy accepted for exhibition some original art castings made by him. A little

later, he invented a machine for perforating government stamps, for which he obtained only a small reward, in spite of its universal adoption. When he was forty, he became interested in the iron industry, and although he had only a small knowledge of this metal, he set out to improve its manufacture. He read up all the literature available on the subject, and so became thoroughly acquainted with the state of the industry. In 1856, he patented a process for converting pig-iron into steel on a large scale in specially constructed vessels called "Bessemer Converters." Iron-masters all over the country acquired rights under the patent, but when the process was tried in the Midlands and South Wales, it proved a failure. Bessemer was discredited, and the high claims he had made for his invention were temporarily disproved. Nothing daunted, the inventor set to work to discover why the process was successful in his experiments and a failure elsewhere. After a few years it was found that while he used Cumberland ore, which was practically free from phosphorus, the other manufacturers used ores containing phosphorus, which were unsuitable for the process. This discovery restored the inventor to favour, and from 1860 onwards, cheap steel was manufactured on a large scale.

Bessemer's work had far-reaching results. Steel rapidly displaced iron owing to its greater durability, and the English puddled iron industry was destroyed. Thousands of puddling furnaces closed down, and the industry had to be reconstructed on the basis of Bessemer steel. Industry in general benefited, but severe losses occurred in the iron industry. As the process was only applicable to non-phosphoric ores, the great bulk of English ores were unsuitable for it, and iron ore had to be imported, mainly from Sweden and Spain. Steelworks therefore grew up near the coast, to save the land transport of ore from the ports. Bessemer himself made an enormous fortune from his patent. When he died in 1898, steel had almost completely usurped the position formerly occupied by malleable iron.

FURTHER INVENTIONS.—In 1868, the brothers Siemens, and two French iron manufacturers, the brothers Martin, succeeded in manufacturing steel in an "Open Hearth" furnace. This method had certain advantages over the Bessemer, mainly by

enabling the process to be controlled during manufacture. The Bessemer, once charged, was sealed, and nothing more could be done to it until the process was completed. In the case of the Open Hearth, the process could be watched, samples could be periodically taken, and the charge "doctored" to remedy any defect which might be detected. The Bessemer process, on the other hand, was shorter, and the two methods continued to be used. But the superiority of the Siemens-Martin process is generally acknowledged, and the Bessemer process, even in the late nineteenth century, was gradually being superseded by that of the Open Hearth.

In the meantime the enormous demand for steel directed the attention of inventors to the possibility of using the phosphoric ores, which existed in large quantities in the Cleveland district of Yorkshire, in Staffordshire, and in other districts. The solution of this problem was provided by a young chemist named Gilchrist Thomas. He showed that by lining the converter or open hearth with lime, the phosphorus was removed from the iron, forming a slag, which floated on the liquid steel, and could easily be run off to waste. This process, from the fact that lime is a basic material, was called the "Basic Process," the steel being called "Basic Steel" to distinguish it from the other, called "Acid Steel." The success of this method was immediate, and steel was further cheapened owing to the abundant supplies of ores now made available. The German steel industry owes its existence to Gilchrist Thomas, since the enormous iron deposits of Lorraine are phosphoric. The slag, later, was found to be a valuable fertilising agent, owing to its phosphoric content, and the demand among farmers for this made it a valuable by-product of the basic steel industry.

CONCLUSION.—In estimating the importance of these developments in coal, iron and steel, it is no exaggeration to say that they became the foundation of the economic system of England, and of other countries which were fortunate enough to possess these natural resources. Cheap coal meant an abundant supply of cheap power for machinery and mechanical transport, and cheap raw material for important chemical industries. Mechanical transport and steam-power revolutionised industry and trade, and

England's rich coalfields gave her an overwhelming economic advantage in the new industrial age. But machinery, locomotives, steamships, railways, and the host of other forms of equipment which have become vital for industry and commerce, could not have been manufactured on any considerable scale without iron. Inventors provided the machinery which has multiplied the product of industry; engineers solved the difficulties of constructing machinery accurately; steam-power was harnessed to drive machines which became too massive to be driven by human or water-power; iron and steel provided the material for constructing machines capable of standing the strain of steam-power; while canals, and later mechanical transport, enabled heavy and bulky goods to be carried in enormous quantities cheaply and quickly from one end of the earth to the other. The foundations of all these developments were coal, iron and steel.

CHAPTER V

THE DEVELOPMENT OF MEANS OF TRANSPORT

CANALS—ROADS—BRIDGES

THE NEED FOR TRANSPORT.—The growth of internal trade and the expansion of industry, particularly its concentration on the coal-fields of the north and west, created an urgent transport problem during the eighteenth century. For centuries, England had been content with her rivers and earthen tracks, to serve what trade had existed, and while economic life remained local in character, no great pressure was put upon those means of transport. Travelling was rare; pack-horses and mules carried the lighter wares of the merchants, while their heavier goods went by river. But during the eighteenth century these methods became hopelessly inadequate. As will be described later, the earthen tracks, intended only for pedestrians and hoofed traffic, were ruined by heavy wheeled traffic, and the lack of transport facilities became the greatest hindrance to industrial and commercial progress. The growth of towns required the transport of huge quantities of food for the people, building materials for the houses, raw materials for the industries, and finished goods had to be conveyed to the distant markets. The coal and iron industries, in particular, poured out their thousands of tons for conveyance to all parts of the country. Thus a revolution of transport became imperative to the economic life of the nation, and not until roads were improved, canals were constructed, and later railways were built, could large-scale industry become possible.

RIVERS.—The value of English rivers for transport, in the absence of other facilities, cannot be over-estimated. The roads

were useless for heavy loads, which could only be transported by coasting vessels and river boats. A great majority of the inland towns, and even the ports, owed their importance to being situated on, or near a navigable river. Both Bristol and Gloucester were distributing and collecting centres for wide areas served by the Avon and Severn respectively. Exeter and Taunton did a considerable amount of home and foreign trade by the Exe and Parret. Even London owed its pre-eminence to the Thames. Large fleets of boats, some of them capable of carrying up to fifty tons, distributed goods to those towns fortunate enough to be within the navigable reaches of the rivers. Hereford got its coal by the Wye, and the iron ore and charcoal for its iron industry came the same way. Stourbridge Fair was supplied with heavy goods by the Ouse, the goods being discharged at Cambridge. Gloucester sent its cheese to London by means of the Thames, the goods being loaded at Lechlade. Sheffield exported its cutlery by the Don to the Humber. The importance of rivers was enhanced by the increased trade of the sixteenth century, and much work was done to straighten, deepen, and widen them. Proposals were advanced by far-seeing individuals to connect rivers by short canals in order to provide through water traffic between important ports. For instance, it was suggested to Cromwell to connect Bristol and London by canals joining the Thames, the Avon and the Severn. But rivers had their serious defects, and on the whole were unsatisfactory as means of transport. The areas they served were strictly limited, while large stretches, even of the important rivers, were unfit for navigation. Subject to alternating periods of flood and drought, they could never be completely relied upon. Tortuous in their course, they were necessarily slow. Still they were cheap, and they satisfied an important need until alternative means of transport were provided.

CANALS.—Canals owed their origin to the need for transporting, cheaply and efficiently, heavy, bulky goods like coal, from inland areas to the industrial towns and ports. The idea was not new, European countries, notably France and Holland, having their canals long before the eighteenth century, while they existed even in ancient Egypt and China. In England,

DEVELOPMENT OF MEANS OF TRANSPORT 167

the Fens had been drained by canals constructed by the Dutch engineer Vermuyden in the previous century, while a short canal, with a lock in its course, had been built near Exeter in the sixteenth century. In 1755, the Sanky Brook Canal opened up the Cheshire salt industry, by providing through water transport to the Mersey. But the canal era really opened with the construction of the famous Bridgewater Canal in 1760, connecting the extensive collieries of Worsley with Manchester. At this period Manchester was a rapidly developing textile centre, but such was the state of the roads, that the town was almost isolated in winter. Wheeled traffic was impossible, and goods entered and left the town by pack-horses, the inhabitants having to lay in stocks during the summer as if preparing for a siege. The Duke of Bridgewater, who owned the mines at Worsley, finding it expensive and difficult to transport his coal, determined to overcome the problem by constructing a canal to Manchester. To do so, it was necessary to cross the valley of the river Irwell. The Duke called in James Brindley to undertake the work, thus beginning the latter's career as the most famous canal engineer of the eighteenth century.

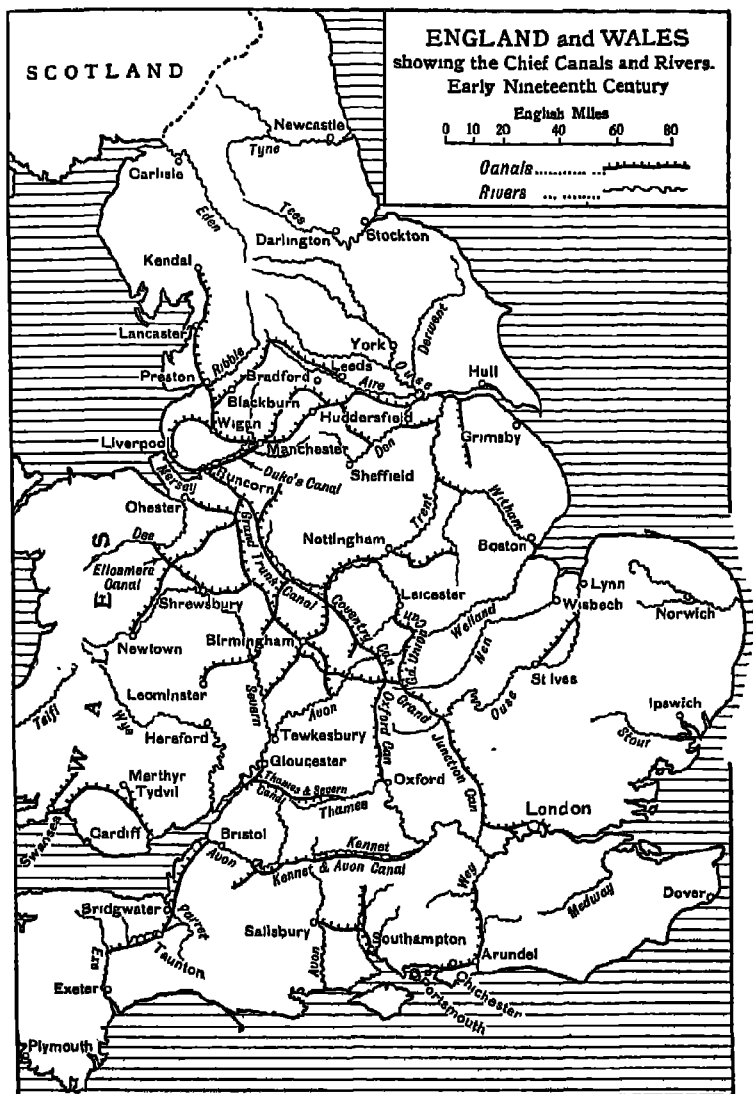
JAMES BRINDLEY.—Brindley was born in 1716, near Buxton. His father was an agricultural labourer, and thus could not afford to educate his son. But even as a boy, James Brindley showed a wonderful aptitude for constructing wooden models of mills and machines. He became apprenticed to a millwright, a trade which at that time included a wide variety of work, from the construction of mills to the setting up and repairing of mill machinery. After a short period as a journeyman, he set up on his own account, and soon acquired local fame as a mechanical genius, inventor and engineer. Among his inventions was an appliance for accurately cutting cogs in mill wheels, his apparatus doing the work in much shorter time, and more accurately than was possible by hand.

When Bridgewater consulted him, Brindley's reputation was already established in the north, but his subsequent work earned him national fame. The intention of the Duke was that the canal should descend to the valley by a series of locks, but Brindley boldly suggested the construction of an aqueduct to carry the

canal on one level over the river. Parliamentary consent was obtained, and the work was put in hand. The Barton aqueduct, the first of its kind, proved a great success, and at the time was considered a marvellous engineering feat. The aqueduct, two hundred yards in length and twelve yards wide, was supported by a great three-arch bridge, so strongly built that when it was demolished, a century later, it was still in perfect condition. The canal was opened in 1761, and Manchester was provided with a continuous transport service. The price of coal there was halved, and more important still, when steam-power developed later, and great factories were built in and near the town, abundance of cheap coal was within easy reach, a fact which contributed greatly to the industrial progress of the district.

Brindley's next work was to construct a canal from Manchester to Liverpool, again in the service of Bridgewater. This scheme was strongly opposed by river owners, but parliamentary consent was obtained, and the work was commenced in 1762. Six years later, Runcorn, on the Mersey estuary, was reached. Liverpool derived great benefit through having its hinterland opened up by a cheap form of transport. It rapidly became a great port for the coal and cotton trades. The two canals cost over £220,000, but they proved, from the beginning, a source of considerable profit, although the costs of transport were more than halved. In 1772, the Manchester-Liverpool Canal carried passengers at one shilling per head, special passenger barges being built for the service, "each provided with a coffee-house."

THE CANAL MANIA.—The success of the Bridgewater canals could not fail to attract public attention to the possibilities of this form of transport, and during the next half-century, a great network of canals was constructed in the country. Brindley was recognised as the great authority, and his services were called in, either as engineer-in-charge, or as consulting engineer, for most of the earlier schemes. In 1777, the Grand Trunk Canal, which joined the Mersey, Trent and Severn, was opened, giving water communication between Liverpool, Hull and Bristol. This canal was responsible for the opening up of the Potteries, by providing a safe and cheap means of transport for pottery, while the cost of transport from Liverpool to Birmingham, which



was five pounds a ton by road, was reduced to twenty-five shillings. London was joined to this canal soon afterwards by the construction of the Grand Junction Canal, so that the four greatest ports in the country were linked up. A "Canal Mania" occurred in the years 1791-94, during which no fewer than eighty-one canal acts were passed, and though many of the schemes failed from the financial point of view, an elaborate network of waterways resulted. In 1834, there were nearly four thousand miles of canals and navigable rivers in England and Wales. The services of other great engineers were called in for the later canals, among the most important being Telford, Smeaton and Rennie, who were also road and bridge engineers. Telford was responsible for the Ellesmere Canal, connecting Chester and Shrewsbury, and the Caledonian Canal, Smeaton for the Forth-Clyde Canal, and Rennie for the Kennet-Avon Canal. One of the most wonderful canals built during this period was the Leeds and Liverpool, which took forty-one years to complete, at a cost of £1,200,000. The canal had three aqueducts in its course, and at one point it passed through a tunnel nearly a mile in length, to negotiate the Pennines. Telford later added a second tunnel to supplement the original one.

BENEFITS OF CANALS.—English economic development during the late eighteenth and early nineteenth centuries, owed a great deal to the canals, without which considerable areas of the interior, not served by rivers, would have found their progress barred by transport difficulties. Not only did they provide a relatively cheap form of transport, but, as already stated, they enabled bulky, heavy goods to be carried from place to place with comparative ease. The coal and iron industries could not have developed without these facilities. The growth of towns had always been impeded by imperfect means of transport, but now large-scale industry was possible, which in turn gave an impetus to the growth of towns, although their size was still limited by the carrying capacity of the canals. Towns in the interior, particularly, owed much to the canals, the pottery towns of Staffordshire, for example, trebling in size within a generation of the coming of canals. Ports also benefited by the opening up of their hinterland. Among the people who benefited most were

DEVELOPMENT OF MEANS OF TRANSPORT 171

the farmers, who were provided with a wider market for their produce, and a cheap means of getting fertilisers. Canal transport, in fact, was a primary cause of the improvement which took place in agriculture during this period. The establishment of inland ironworks, as at Merthyr, would have been impracticable but for canals.

DEFECTS.—But canals had their serious defects. They were very slow, and much time was lost by delays in negotiating locks and tunnels, barges often having to wait twelve hours or more before they could enter the locks. These delays became more frequent, and longer, as traffic became greater. Attempts were made to use bigger barges driven by steam-power, but, with a few exceptions, canals were too narrow and shallow, particularly at the locks, tunnels, and aqueducts, to allow much scope in these directions. The costs of widening and deepening were rendered prohibitive by the fact that buildings and wharves had been crowded on the banks. There were also too many companies for uniformity of policy, and owing to the differences in the gauge of locks, goods had often to be transhipped to fresh barges at the junction of canals. This made through traffic difficult, and, in any case, added to the delays and expenses. The position became intolerable in the early part of the nineteenth century, by which time the traffic had far outgrown the carrying capacity of the existing means of transport. The canal companies became independent, and it was no uncommon thing for goods to be delayed weeks on comparatively short journeys. England's industrial progress was again hampered by the inadequacy of transport, and the difficulty was only solved by the coming of the railways. When this occurred, the canals rapidly diminished in importance, until at present, although they are still used for conveying heavy goods for which speed is of secondary importance, they are practically obsolete.

ROADS.—Until the sixteenth century, a road was merely a "right-of-way," usually a beaten track, suitable only for pedestrians and pack-horses. The only "made" roads were the cobbled streets of the towns, and remains of the old Roman system. Watling Street ran from Kent to Chester and York, with branches

to Carlisle and Newcastle; the Fosseway crossed England from Bath to Lincoln; Ermine Street went from London to Lincoln, and thence to Doncaster and York. Some attempts were made in the Middle Ages to keep the roads in repair, but on the whole, the art of road-making was allowed to decay from neglect. In the villages, the peasants gave some attention to their tracks as part of their manorial duties, but, as a rule, the repair and maintenance of roads were left to voluntary agencies, principally the Church. The upkeep of the roads was set up as a religious duty, and bequests were frequently made by charitably-minded persons for this object. The dissolution of the monasteries had serious consequences for the roads. A Highways Act was passed in 1555, attempting to make the upkeep of the roads compulsory. The act declared that roads had become "both very noisome and tedious to travel in, and dangerous to all passengers and carriages." It required all parishes to appoint an unpaid surveyor of the highways, to take office for a year, to superintend the repair of the roads. Parishioners were to put in four days (increased later to six), of eight hours each on the roads, and to provide a horse, cart, and the necessary material according to their means. Little was done, however, as it was found, in practice, almost impossible to compel people to carry out their legal obligations. The surveyors were unskilled and very reluctant to accept the responsibility, while the forced labour, even when carried out, was quite unsatisfactory. There were exceptions, it is true, where J.P.'s had the roads leading to their own houses very well looked after. The roads on the whole went from bad to worse, until by the eighteenth century, they were in a hopeless condition, quite unfit for winter travelling, and almost as bad in summer. The development of wheeled traffic in the meantime did not improve matters. The stage or long waggon began to be used for transport between London and the other principal towns in 1564. About the middle of the seventeenth century the stage coach was introduced, beginning in 1645 and becoming a regular means of travelling after 1660. The ruts worn by these heavy vehicles were sometimes as much as four feet deep, and even when they were repaired, the usual methods adopted were either to fill in the ruts with loose earth, which the rain turned into soft mud, or to dump huge boulders into them and fill the spaces with earth.

DEVELOPMENT OF MEANS OF TRANSPORT 173

THE TURNPIKE ROADS.—As the belief gained ground that it was better to allow individuals every freedom to develop the economic resources of the country, the government, during the eighteenth century, was loath to intervene in these matters, adopting the policy of *laissez-faire*, in contrast with the mercantilist attitude of the Tudor Age. The improvement of the roads was left almost entirely to groups of individuals, who formed themselves into Turnpike Trusts, taking over sections of roads after getting consent by a private act of parliament. The first of these trusts was founded in 1663, for a section of the Great North Road. Toll bars were erected at each end of the section, and the company collected tolls for the upkeep of the road, and to pay interest on the capital. This method gradually spread with the increase in road traffic, and between 1760 and 1820 over a thousand of these acts were passed.

Great opposition was aroused against the collection of tolls on roads, which had always been regarded as "rights of way." As one writer expressed it

"No cit nor clown

Can gratis see the country or the town."

Riots broke out in many parts, toll bars being destroyed and toll-house keepers maltreated. The most serious of these occurred on the Bristol roads, at Bedminster, in 1749, when the riots lasted for twelve days, toll gates being blown up with gunpowder. The rioters were only put down by a strong body of soldiers. In Wales, as late as 1843, parties of men disguised as women, and led, it is said, by a woman, did enormous damage to turnpikes during the famous Rebecca Riots. In 1738, the destruction of toll bars was made a felony, but as the public grew accustomed to them, the opposition slowly died down.

BENEFITS FROM TURNPIKES.—Although, as will be described below, the roads were on the whole in a terrible condition until the beginning of the nineteenth century, there is no doubt that the turnpike companies, especially in some districts, were responsible for great improvements. Skilled engineers were employed by them, and systematic efforts were made to re-discover the art of road-making. While canals were suitable for heavy

and non-perishable goods, a quicker form of transport was necessary for the lighter goods, and the roads were certainly much faster than the canals. In 1784, Palmer instituted the system of mail coaches, and it is difficult to see how letters could have been sent otherwise. Writers described the comparative luxury of travelling on the smooth surface of the turnpikes, in contrast with the rough country by-roads, and of "flying along" at the enormous speed of twelve miles an hour. Such conditions, however, could only be found in a few specially favoured districts.

THEIR DEFECTS.—Turnpike companies suffered from obvious defects. The improvements they effected were piecemeal, only those sections of main roads being taken over by them, from which profits were anticipated. Thus, while roads near large towns were tolerably well looked after, in the country districts, even the main roads were almost completely neglected. The multiplicity of companies prevented any uniformity of policy, and no standard tolls were possible. The burden of the tolls was thus unequal, in some districts a long stretch of road being opened by payment of one toll only, while in others, many tolls had to be paid even for comparatively short distances. There were complaints from many parts of the country that tolls were arbitrarily raised to swell the profits, and that expenditure on road repairs was cut to the minimum in the interests of the shareholders. Still there was some justice in making people pay for roads as they used them, in the absence of any alternative plan. The levy of a compulsory rate for the maintenance of roads was a principle only adopted later. Another common complaint was that tolls for certain sections were farmed out to highest bidders. Those who acquired them in this way had no interest in the roads, beyond the profitableness of their deal, and they had every incentive to force up the tolls and reduce expenditure.

GENERAL CONDITION OF THE ROADS.—In spite of the work of the turnpikes, with few exceptions, the condition of the roads throughout the eighteenth century was on the whole appalling. Guide-posts were almost unknown, and it was no uncommon thing for travellers to lose their way. In avoiding ruts and mud, carriages wandered over the open fields, in some cases hundreds

of yards on either side of the normal passage. Roads had frequently to be completely abandoned and new paths cut. Carriage traffic had to be suspended in the winter months, and even horses had literally to plough their way along. Some of the turnpike roads were little better. When attempts had been made to curve the roads to allow of drainage to the sides, the curvature was often so pronounced that only the crown of the road was safe, coaches being in danger of overturning when they ventured too near the sides. In 1730, George II and his queen were upset at Parson's Green on their way to London, while a few years later the queen was advised by her ministers to leave Kensington Palace for St. James's for the winter, as the road between Kensington and London was "an impassable gulf of mud." Arthur Young, whose travels gave him wide experience of the roads, found conditions frequently intolerable. Describing the roads round Newcastle, he advised "all travellers to avoid this terrible country, which must either dislocate their bones with broken pavements, or bury them in muddy sand." The roads in Essex were "so narrow that a mouse cannot pass by any carriage," while the roads of Norfolk were "ponds of liquid dirt." Another traveller, Marshall, described the turnpike road from Chepstow to Newport as "more resembling a causeway than a road." Small wonder was it that towns were isolated in winter, and that the roads were easy prey for Dick Turpin and his colleagues. A coach left London for Edinburgh once a month, taking between twelve and fourteen days for the journey, and the travellers set out "provisioned and armed as if for a siege."

THE ROAD ENGINEERS.—After 1760 determined efforts were made to improve the roads, and progress came mainly through the work of three great road engineers, John Metcalf, Thomas Telford, and John Loudon Macadam.

METCALF, or "Blind Jack of Knaresborough," as he was called, was born at Knaresborough in 1717. He was blind from six years of age, after an attack of smallpox. In spite of this handicap, he developed a wonderful sense of direction, and was known to guide travellers on their way. He anticipated Macadam in inventing a method of obtaining a smooth durable road surface by pounding small stones together, and he effected miraculous

improvements in the roads in his district by this method. His work earned him a great local reputation, and in 1765 he became a road engineer, being appointed to construct a road from Harrogate to Knaresborough. A bog had to be negotiated on the way, and Metcalf showed great skill in constructing the road over the bog by providing a foundation of heather and ling. The road literally floated on the bog and was a complete success. Between this and 1792, when he retired, he constructed one hundred and eighty miles of turnpike roads in the north. He spent the remainder of his life, until 1810, writing his autobiography.

THOMAS TELFORD, a shepherd boy of Dumfriesshire (1757-1834), began his career as a road engineer and surveyor of roads in Shropshire. He became a great builder of bridges and canals as well. Telford urged the need of road surveying to avoid steep gradients, and also recommended a slightly curved, firm surface, on a solid foundation. In 1814, he constructed a road on this principle from Glasgow to Carlisle, and the following year from Shrewsbury to Holyhead, roads which were an enormous advance on their contemporaries.

MACADAM (1756-1836), was born in Ayr, and even while at school, he is said to have constructed a model road section. He emigrated to New York at fourteen, and entered the service of a merchant uncle, returning in 1783, having made a small fortune. Roads had always been his hobby, and now they became his absorbing interest in life. He differed from Telford, in recommending a surface formed by pounding together loose stones on an elastic foundation. In 1815 he was appointed surveyor of the roads at Bristol and soon transformed the roads there. A great press controversy ensued concerning the rival methods of Telford and Macadam, which served to attract the attention of the public, and finally of the government, to the question of road construction. Macadam, who possessed a persuasive style of writing, gained the victory. In 1827, he was appointed Surveyor-General of the Highways of Great Britain. The term "macadamised," used by modern road-builders, shows his influence on road construction.

THE END OF THE TURNPIKES.—Enormous strides were made in road construction in the first four decades of the nineteenth

century, the English system of roads being transformed by a new generation of civil engineers. But the expense of road-building mounted up at a time when the railways were ushering in the age of mechanical transport. The most lucrative traffic of the roads, the stage and mail-coaches, were replaced by the goods and passenger trains, and the income of the turnpike companies fell away rapidly. The Highways Act of 1555 was repealed in 1835, and the companies lost their compulsory labour without compensation. Also the government, on the recommendation of Macadam, had forced on the amalgamation of the trusts, the new companies being required to take over whole stretches of roads instead of sections. The result was wholesale bankruptcies among the trusts, the roads reverting to the parishes. The roads were rapidly disturnpiked by a parliamentary committee after 1864, and by 1894 the last turnpike had disappeared.

PUBLIC ROADS.—The act of 1835 replaced compulsory road labour by highway rates, levied on the parishes for the maintenance of the roads within their boundaries. This led to bitter complaints, particularly from parishes near busy towns, that the burden of the rates was heavy and unequally distributed. Some parishes, those away from main routes, escaped comparatively lightly, while others were responsible for miles of roads. When main roads were disturnpiked the burdens became greater, and the complaints more frequent. In 1878, the responsibility for half the cost of main roads was given over to the county authorities, at that time the J.P.'s in Quarter Sessions, while the government gave grants to the parishes to assist them in meeting the remainder. In 1888, the county councils were created, and the whole upkeep of main roads was transferred to them, except in the case of boroughs, which were allowed to retain the roads within their boundaries.

The coming of motor traffic has again complicated the road problem. Motors need wider roads, and smoother surfaces, while heavy lorry traffic needs firm foundations, as recommended a century earlier by Telford. The art of road construction has been again transformed, and engineers are at present experimenting with various types of dustless roads, solidly built to withstand the enormous strain now put upon them. The costs

of road-making have increased greatly, and the principle has been adopted by the government of taxing motor vehicles to form a special road fund, out of which grants are made to the counties and boroughs, varying between forty per cent. and seventy-five per cent., towards the construction and maintenance of roads, the remainder of the expense being provided out of the highway rates. We are beginning a new era of road transport which will again lead to a transformation of the road system of the country.

BRIDGES.—The construction of bridges is a problem which has always existed for the road-builders. Few old English and Norman bridges now remain in England, the best examples being Croyland Bridge, and those on Dartmoor. The old method of building bridges was to sink large boulders, or alternatively, baskets filled with stones, in the bed of the river, to form foundations on which pillars were built to support the arches. Some of these, like old London Bridge, stood for centuries, and even supported rows of houses and shops. During the Middle Ages, the Church undertook a good deal of responsibility for bridges. The art of bridge-building did not make much headway until the end of the eighteenth century, but progress then became very rapid, owing to the wonderful work of famous bridge-builders like Smeaton, Telford, and Rennie. The problem of foundations was solved by sinking water-tight chests into the river, the top of each chest being above high-water mark. The masonry was then built inside the chests, and thus solid pillars were obtained, resting on the river bed. Later it became necessary to carry this a stage further, and sink shafts into the river bed until a solid rock foundation was reached. Rennie built his first bridge at Leith, near Edinburgh, but he earned his fame as a bridge engineer by the construction of Waterloo Bridge in 1817. His son built London Bridge in 1831. Smeaton became famous by bridging the Tay at Perth. The foundations for this bridge, which was nine hundred feet in length, and which contained seven principal arches, were obtained by driving wooden piles into the river bed to form a water-tight enclosure. The water was then pumped out and digging operations carried out until a firm foundation was secured for the pillars. Smeaton had one great failure,

DEVELOPMENT OF MEANS OF TRANSPORT 179

at Hexham, on the Tyne, where the bridge, which he designed in 1777, was washed away during a storm in 1782, owing to insecure foundations. Telford constructed, among other bridges, the famous Menai Suspension Bridge, the central portion of which was supported by chains, not to interfere with the navigation of the Straits. During the nineteenth century bridges had to be constructed for railway traffic. These required even stronger foundations than road bridges, but the main problem had already been solved by these great pioneers.

CHAPTER VI

THE AGE OF INVENTION

THE SPIRIT OF INVENTION.—During the eighteenth century, so great was the expansion of trade, that the productive resources of the country were subjected to a heavy strain to supply the markets. England's selling power in fact tended to outstrip her productive power. Employment was so brisk that labour became relatively scarce, particularly in the textile industries. Merchants complained that weavers fell behind in their work, and weavers that they could not get a sufficient supply of yarn spun to keep them going. It was quite natural therefore that the possibility of mechanical aids to production should attract the attention of the more enterprising workers, merchants, and manufacturers. The time was ripe for that burst of invention which, beginning about 1730, transformed industries from handicrafts to mechanical occupations.

Every age owes some debt to inventors, but no age has produced such a wealth of inventions as this one, a fact which entitles the eighteenth century to be called the "Age of Invention."

The inventors themselves were, with a few exceptions, men of humble birth, who began to work at an early age, helping their parents to spin and weave. The only mechanical training that most of them received was to use the spinning-wheel and the hand-loom. Only the work of some of the most famous inventors will be described in this chapter. All over the country, however, there were literally thousands of mechanically-minded people who improved their simple appliances, but their work remained hidden, often because they did not realise the value of their discoveries.

THE COURSE OF THE INVENTIONS.—As the textile industry was by far the most important in the country, it was to the spinning

of yarn and the weaving of cloth that machinery was first applied, although inventors were equally active in agriculture, in road-making, canal construction, bridge-building, iron-smelting, and coal-mining. In order that an invention should be successful, it was not sufficient for the inventor merely to have the idea, although that was the most important step. The idea had to be embodied in a well-constructed model, which required considerable skill. Then the model became a pattern for the construction of a working machine, to persuade manufacturers that it could do what the inventor claimed. These stages often took years of careful, painstaking work, and success came only after many failures. The inventors, most of whom were poor, had to seek for financial assistance to maintain themselves, and to meet the costs of materials used in their work. Fortunately, capital was fairly abundant at this time, and enterprising manufacturers were not slow to grasp the opportunity of assisting people whose work, if successful, promised great financial rewards. The story of machinery is full of examples of alliances between poor inventors and wealthy patrons.

With the exception of Kay's fly shuttle, which assisted the weaver, inventions first applied to the preliminary processes of cloth-making, namely carding, combing, and spinning. Weavers complained, especially in summer, when field work employed the women, that they had to tramp miles for supplies of yarn, and that a present of some pretty ribbon, or even of a new gown, was often necessary to cajole the spinsters to work for them. "Necessity is the mother of invention," and the need for speeding up the production of yarn provided a stimulus to the inventor. But when yarn became abundant, it could not be woven into cloth fast enough, so that the need for weaving machinery was created. Once started inventions "grew by what they fed on."

Of the textiles, cotton was the first to be mechanised, soon followed, however, by wool and worsted. Cotton was a new industry, and less resistance was directed against machinery by the workers than in the woollen industry, which had centuries of tradition behind it. The scarcity of labour was more acute in the cotton industry, and there was no shortage of raw material feared, as in the woollen industry. As the operations in the various

textiles are more or less similar, it was only a matter of time, however, for machinery to spread into all of them.

The first machines invented were usually simple hand-worked appliances, which could be operated in the home. But with the inevitable improvements, they became bigger and more complex. For instance, a machine to spin seven threads at a time was relatively simple, but when it was elaborated to spin over a hundred, it became a highly complex affair. This occurred within a generation in the case of spinning. Such machines had to be strongly built, and iron had to be used for their construction instead of wood. They became too heavy for human power to work, so water-power, and then steam-power was harnessed to them. The final outcome was elaborate steam-driven machinery, housed in great factories, and supplied by wealthy manufacturers, who employed hundreds of people as wage-earners to manufacture cloth on a large scale. Machinery thus brought with it the factory system and the Industrial Revolution, but it took the best part of a century for the simple machines of the first inventors to be developed by others into the steam-driven giants.

JOHN KAY.—One of the first textile inventors of the period was John Kay, who was born at Walmersley, near Bury, in 1704. As a young man he was put in charge of his father's woollen mill at Colchester, where, in 1733, he invented the fly shuttle. This was merely a device to assist the weaver to throw the weft yarn. (Simply stated, the process of weaving includes dressing the loom with warp yarn, and crossing the warp with the weft yarn.) Hitherto, in the weaving of broadcloth, two weavers were necessary to each loom, but the fly shuttle enabled the weaver to work the loom himself, or at the most, with the assistance of an apprentice or journeyman, while it speeded up the weaving process. It was claimed that the fly shuttle enabled the weekly output of the loom to be doubled. This was partly responsible, in districts where the device was adopted, for the scarcity of spinners. Kay himself not only got no reward for his discovery, but was subjected to violence and abuse. Those who adopted his appliance grossly infringed his patent, and refused to pay for its use. The weavers of Colchester, who imagined that the fly shuttle would lead to extensive unemployment for them, resisted the invention, and drove

Kay to settle in Leeds. He was not left in peace there, although the weavers used his device, and eventually he was driven abroad. He died in France, in obscurity and poverty, writing, just before his death, a pathetic letter complaining of the ingratitude of his country. He was full of other ideas, which oppression had prevented him from carrying out, and it is probable that a brilliant inventor was sacrificed. His fly shuttle, although not forgotten, did not come into general use until much later in the century.

JAMES HARGREAVES.—An interval of more than a generation elapsed before the first successful spinning-machine was invented. This was the work of James Hargreaves, a weaver of Standhill, near Blackburn. The story is told that one day he was watching his wife spinning, probably waiting impatiently for a supply of yarn to go to his loom, when the spinning-wheel fell over. The wheel continued to turn in a horizontal position, and this gave him an inspiration that one wheel might be made to work more than one spindle. After years of patient work, he constructed a machine to spin seven threads at a time, and patented it in 1767. He called the machine the jenny, because it did the work of women. The thread which the jenny spun was very fine, but not strong enough for the warp, and thus it was used to provide weft yarn for the cotton industry, linen being used for the warp. His machine was wrecked by an angry mob of spinners, and, like Kay, Hargreaves was forced to leave his native place. He sought refuge in Nottingham, where he started a small factory. He died in 1778, and though he was not so unfortunate as Kay, he did not reap the reward to which he was entitled. His factory was moderately successful and, at least, he left his widow well provided for.

RICHARD ARKWRIGHT.—One of the greatest "captains of industry" in this country, and probably the greatest personality in the early cotton industry, was Richard Arkwright. Born in 1732, at Preston, the youngest of a family of thirteen, his father a poor labourer, Arkwright did not receive the advantages of education. He was apprenticed to a barber, and settled at Bolton, where he gained some reputation as a wig-maker. While shaving his customers, he probably discussed with them the

scarcity of spinners, and he knew that a fortune awaited the person who could solve the problem. He spent his scanty leisure time constructing models of spinning-machines, earning, incidentally, the wrath of his wife for "wasting time in which he should be shaving, and money, in tinkering about with models." Shortage of money was his chief difficulty, and Preston friends helped him liberally. Later he moved to Nottingham, where he entered into partnership with two wealthy manufacturers, Samuel Need and Jedediah Strutt. This solved the financial problem for him. In 1769, after years of effort, and numerous failures, he produced a successful spinning-machine, embodying a completely new principle, that of spinning by rollers. The machine required water-power to work it, and hence he called it the water frame. This principle had been suggested thirty years before by Lewis Paul, the son of a French refugee, but Paul's machine had not proved successful. Arkwright probably got the idea from this source, but although he may not have been the real inventor, to him belongs the credit of making it a practical and commercial success. Arkwright's chief success, however, was in the field of organisation and business management. He was a tireless worker, his working day lasting from 5 a.m. until 9 p.m., and he had a rare genius for organisation, coupled with boundless ambition, which was not to be deterred by setbacks. Like most inventors of the period he met with widespread hostility, and his factory at Chorley was destroyed by workers in 1774. His patent was shamelessly infringed, and manufacturers boycotted his yarn. In 1785, the manufacturers united against him, and, although earlier in the year he had secured a court verdict protecting his patent, this verdict was reversed, on the grounds that he was not the real inventor. The patent was withdrawn, and the water frame was thrown open to the whole industry. The verdict also applied to a carding machine which he had invented in 1775.

Arkwright was, however, by this time a wealthy man, and henceforward he devoted his energies to the management of cotton factories. His frame spun a strong, though rather coarse yarn, which was suitable for the warp. Thus pure cotton goods could now be manufactured in England, using the frame yarn for the warp and the jenny yarn for the weft. The fact that the manufacture of cotton became a home industry led to the repeal,

in 1775, of the acts prohibiting the wearing of calicoes in England. Arkwright's machine, since it required water-power to drive it, was responsible for bringing in the factory system, and cotton factories were built in Scotland, Derbyshire, and Lancashire. Arkwright's ability in factory organisation gained for him numerous partnerships in all three centres, and in most cases he became the dominant partner. He succeeded in building up great enterprises, and wealth came to him so rapidly that he even claimed that he would one day pay off the national debt, while he contemplated the ambitious scheme of buying up all the world's supply of cotton. He was knighted for public services in 1786, and died in 1792, a millionaire, and the founder of the modern factory system.

SAMUEL CROMPTON.—About 1780, the principles of the jenny and the frame were combined in an invention called the mule, produced by Samuel Crompton. Crompton was born near Bolton in 1753, of middle-class parents. He received a fair education, and became a weaver. His now famous home was the "Hall-in-the-Wood" on the outskirts of Bolton. There he conducted his experiments in secret, working for five years before he achieved success. The mule spun a fine and strong yarn, and made possible the manufacture of fine cotton cloths and muslins for the first time in England. The quality of the yarn was so far superior to all others, that he aroused the curiosity of his neighbours. Crompton was different from Arkwright, being of a shy and retiring disposition and hating publicity. In spite of all his efforts to keep his machine secret, (he even erected it in the attic of his home), he was pestered by people anxious to learn his methods. He was too poor to patent the machine, and was finally prevailed upon, under promises of financial reward, to exhibit the mule in Manchester. It became common property after that, and to the discredit of the manufacturers who benefited by it, only a trifle over £100 was raised as a subscription for the inventor. This naturally embittered Crompton, who was incapable of becoming a factory organiser, and the wealth earned by his machine went to others. In 1812, parliament was petitioned to recognise his services, but though he expected at least £20,000, and was unofficially promised that amount, all he received was

£5,000. He invested this in a dyeing factory which proved a failure. He died in 1827, a comparatively poor man.

Long before he died, the mule, which was driven by water-power in 1790, and by steam soon afterwards, had superseded the jenny and the frame. In 1825, it was made self-acting and automatic by Richard Roberts. By this time, spinning had become a factory occupation.

WEAVING.—The application of machinery to spinning produced such an abundance of yarn, that much of it had to be exported, because the supply was much greater than the demand for home manufacture. Weavers enjoyed unprecedented prosperity, and their reluctance to adopt Kay's fly shuttle disappeared. Their increased prosperity was reflected in a higher standard of living, better housing, superior clothes and increased comforts. It is said by some contemporaries that it was a common sight to see a weaver going about with a five-pound note under the band of his hat, and that when he entered an inn, he expected to be served in a private room where he would meet his fellow-weavers. The conversations that went on in these inns among the weavers must have been very interesting. They were probably unanimous in their praise of inventions that made them independent of the spinner, but somewhat apprehensive of rumours that their work would in time be performed by machines. It was natural under these circumstances for weaving to become an attractive occupation for unemployed spinners, agricultural labourers, and demobilised soldiers and sailors. The weavers tried to prevent the influx of newcomers by petitioning for the enforcement of the Elizabethan Statute of Artificers, which required a seven years' apprenticeship for the craft, but in vain. In 1814, this statute was repealed, as a result of the *laissez-faire* policy of the government.

The prosperity and independence of the weavers proved to be short lived. They had to face in their turn, the coming of machinery, which converted their craft into a factory occupation.

EDMUND CARTWRIGHT.—The invention of a power loom came from an unexpected quarter, from a man who had no connection at all with the textile industry, namely Cartwright. Born in

1743, educated at Wakefield Grammar School, Edmund Cartwright, after a university career, became a curate at Brampton, near Chesterfield. In addition to being a parson, he was also a poet, and after his adventures in industry and invention, he ended his days as a farmer.

Cartwright kept himself acquainted with the current topics of his age, among which the problem of mechanical weaving was one of the most important. The Society of Arts, of which Cartwright was at one time secretary, offered a premium for the first successful machine, while manufacturers, at the mercy of the weavers, were prepared to encourage any promising effort. In conversation one day with some manufacturers, Cartwright mentioned the possibility of a machine to weave cloth, suggesting that if, as he had recently seen, a mechanical chess-player had been invented, this should be at least as easy. The manufacturers declared it to be impossible, and Cartwright resolved to make the attempt. His first effort, made without any knowledge of weaving, or a study of the handloom, was completed in 1785, a heavy cumbersome machine which was a commercial failure. The inventor, however, persevered, and two years later he improved the machine considerably, although it still contained serious defects. In 1791, he invested his available wealth in a factory, where he installed his power loom, but unfortunately, the mill was burnt down, and its owner ruined. He suffered from the fate of many others, his patent being widely infringed, yet bringing no financial reward to the inventor. He continued to work in the face of adversity, not only on improvements to the loom, but in attempting to produce a successful carding machine. In 1809, when he was 66, "for the good service he had rendered the public by his invention of weaving," he received a grant from parliament of £10,000, with which he bought a small farm in Kent. He did not meet with success even in this venture. He died in 1823. His character may be summed up in his own words, written in his eightieth year, "nor quit the conflict till I quit the stage."

Cartwright's loom was eventually improved by others, mainly by Horrocks and Roberts, and by 1830 it had become a commercial success. Power-loom weaving therefore dates from this time, and for the next twenty years a pathetic struggle

ensued between the hand-loom weavers and the factory, ending inevitably in favour of the latter. By the middle of the nineteenth century the textile industry, including cotton, wool, worsted, silk and linen, was a factory occupation, producing machine-made cloth.

The finishing stages of cloth, printing and dyeing, did not escape the attention of inventors. The discovery of chlorine by a French chemist about 1780, led, two years later, to its use in bleaching cloth. This had been hitherto a long, tedious process, cloth being allowed to bleach in the sun. Chlorine bleaching reduced a period of months to a couple of days for the process. At the same time, a method for printing cloth by cylinders was invented to replace the older printing by hand blocks, which, as may be imagined, was very slow work. In 1801 a Frenchman, named Jacquard, invented a loom for pattern weaving, by using many shuttles containing different coloured yarns. The process of dyeing was altered by the use of mineral dyes, chemically manufactured, instead of vegetable dyes as before. The blending of dyes to produce different shades also became a specialised art.

STEAM POWER.—Side by side with the invention of textile machinery, other inventors were working on the problem of power. That steam was a source of energy and power was known at least as early as 1650. But it was not until the end of the seventeenth century that the first successful engine to use this power was constructed. It was the work of Thomas Savery, a Shilston (Devon) man, who first used steam-power to pump water out of the tin mines in Cornwall. Savery's engine was very imperfect, expensive to work, and its liability to explode without warning made its use dangerous.

A Dartmouth blacksmith, named Newcomen, succeeded in making such improvements in the steam-engine, that he may well be called the "father of the steam-engine." Newcomen's engines, the first of which was erected to pump water from a coal-mine near Wolverhampton, in 1711, were much safer, and more efficient than those of Savery. Further improvements were effected in 1718, mainly in increasing the speed of the engine, and steam-power, at least for pumping water from mines, became quite common. But Newcomen's engine still suffered from many

defects. It was liable to break down frequently, and experts were necessary for its repair, while its consumption of coal was so excessive, that only where coal was cheap, namely at the pits themselves, was its use possible. Another half a century elapsed before further progress was made in making the steam-engine more reliable, in cheapening its operation and in extending the use of steam-power. These improvements resulted from the work of James Watt, one of the greatest inventive geniuses this country has ever produced.

JAMES WATT.—Watt was the son of a Greenock merchant, and was such a sickly child that his education was frequently interrupted by long absences from school. Having a mechanical bent, he was apprenticed to a London instrument maker, but after a year, ill health compelled him to return to Glasgow. As he had not served the recognised period of apprenticeship, the corporation of hammermen of Glasgow refused to allow him to open a workshop there. Fortunately he came under the notice of the authorities of Glasgow University, who appointed him instrument maker, and gave him a workshop in the college. Instrument making was a very delicate art, requiring a sound knowledge of mathematics, in which Watt excelled. In fact he acquired a reputation for solving difficult mathematical problems. His zeal may be gauged from the fact that he learnt German and Italian in order to be able to read books on mathematics in those languages.

The University had a small model of a Newcomen engine which had never worked satisfactorily, and in 1763 Watt was called in to repair it. It was characteristic of him, that he was not content with merely making it work, but he wished to find out its imperfections. Henceforward the improvement of the steam-engine became his chief work. He saw that excessive coal consumption could be overcome by using a separate condenser for the steam, so that the cylinder need not be cooled each time to condense the steam. This was the vital principle which was destined to make steam a cheap and effective source of power.

Watt had the usual difficulties to contend with, lack of funds, and difficulty in getting parts of the machine made accurately. The art of mechanical engineering was, as yet, in its infancy.

He was successful in enlisting the financial aid of Dr. Roebuck, the founder of the Carron Ironworks, but his first engine, the result of years of labour, was only partially successful. Roebuck became involved in financial difficulties, and Watt eagerly accepted an invitation to the Soho Engineering Works at Birmingham in 1775. There he entered into one of the most fruitful partnerships in the history of invention, that with Matthew Boulton, a wealthy capitalist. He was no longer troubled by financial worries, while the up-to-date appliances of the Soho works solved the difficulties of construction. In 1776, Watt constructed his first really satisfactory steam-engine, embodying the new principle. It reduced the consumption of coal to one-fourth, and was much more reliable than the Newcomen engine. Its success was immediate, and orders began to pour into the Soho works. The construction of the engine was however still, difficult work, and it was only when Wilkinson invented a lathe for boring cylinders accurately that completely reliable construction was secured. Wilkinson entered the partnership, specialising in the manufacture of that vital part of the steam-engine, the cylinder block.

Watt's fertile, inventive brain continued to work. In 1782 he made the epoch-making discovery of the rotary motion, by which he used steam-power to turn a wheel. Hitherto steam-power only worked the crank shaft of a pump. This discovery opened out tremendous possibilities for steam, which could now replace water and human power for turning wheels. Within a generation steam-power was employed to drive textile machinery, to supply the blast for iron furnaces, and to haul coal out of the mines. It was steam-power, allied with machinery, that produced the modern factory.

Watt himself was granted extensive patent privileges by parliament, and though he was frequently engaged in law suits defending them, he made an enormous fortune. The works at Soho became the training ground for mechanical engineers, who applied themselves to the solution of the constructional difficulties involved in the use of iron. William Murdock, the inventor of coal gas, and one of the pioneers of the steam locomotive, was a product of Soho.

So rapidly did inventions succeed one another in this period,

that machines became obsolete within a very short time, owing to a change in construction or a radical improvement. At first, designed merely to assist the manual skill of the spinner and weaver, they ultimately replaced that skill. The new labour demand created by them was for machine tenders, the machine doing the work under the control and direction of the operator in charge of it. The pioneer work of the inventors described above was continued during the nineteenth century, and the modern age of mechanical wonders and large scale industry is the result.

CHAPTER VII

THE FACTORY SYSTEM

THE DOMESTIC SYSTEM.—The stage of industry immediately preceeding that of the factory was the domestic system, which lasted in England from the sixteenth to the end of the eighteenth century. It was during this stage that industry became organised on the basis of capital. But the craftsman still retained his independence to the extent that he worked in his own home, and not under the direct supervision of his employers. The factory system developed as the culmination of the great inventions of the eighteenth and nineteenth centuries, displacing in its progress the domestic system, and producing the complete dependence of the worker on his employer for the means of livelihood.

Until the age of machinery, there had been no particular advantage in the factory, although attempts had been made, even in the sixteenth century, by wealthy clothiers like John Winchcombe, to gather workers together into one building. Capital was scarce, and most of the clothiers needed all they had to finance their trade. Since the appliances used by the spinners and weavers were simple hand machines, they could not have produced more, probably less, under factory conditions. Markets were not stable enough to warrant manufacturers engaging a permanent body of workpeople. They preferred to be able to increase and decrease the number of their workers in response to market conditions. When trade was brisk they simply gave out more raw material to their domestic workers, while a temporary decline in trade could easily be met by withholding raw material. Transport conditions, in any case, were too imperfect to allow of the movement of goods in bulk, so that the merchants had to rely on the workers taking their cloth to certain centres and collecting their raw material similarly.

The advantages of the domestic system under these con-

ditions outweighed the disadvantages. But conditions changed during the latter part of the eighteenth century, and the domestic system became out of date. The supremacy of English manufactured goods created extensive and more or less stable markets. Power-driven machinery helped to produce these goods at a price against which others could only compete with extreme difficulty. The development of means of transport removed the great obstacle to the concentration of people and industry in urban centres. At the same time merchants were finding it increasingly difficult to control their scattered workers. Labour was scarce in the early eighteenth century, and the workers tended to be more careless and independent. Complaints became frequent that work was not delivered punctually, and delay became a serious matter when the markets were waiting. The work was often hastily and badly done, so that the standard of workmanship became unreliable. The merchants charged their workers with embezzling raw material, and it was certainly difficult, if not impossible, to see that each person brought back the full amount of cloth, or yarn, from the raw material supplied. Attempts were made by the government to check this practice by legislation, which provided heavy penalties for embezzling, but it was almost impossible, in most cases, to prove the offence. Thus some kind of effective supervision became essential, and this was provided by the factory system.

THE GREAT INDUSTRIALISTS.—The coming of the factory created a new class of wealthy employers, the great industrialists, who became "the captains of industry." The merchants, who had been mainly the organisers under the domestic system, were naturally only interested in industry in so far as it supplied them with commodities for trade. They had not the time, nor the desire, and probably not the means to embark on industrial undertakings. They therefore specialised in commerce, becoming the middlemen between the factories and the markets. The work of organising the factories, supplying the machinery, and collecting the workers was left to people who specialised on the industrial side, and this provided the opportunity for the rise of the manufacturers.

These were drawn from all classes, being often men of humble

birth who grasped the opportunity. It is said of the late eighteenth century that any man who had any enterprise at all could become rich in a few years. The path to wealth was made relatively easy for such people owing to the rapid growth of industry and trade. Many farmers who sold their small farms during the enclosure movement, embarked on industry, and made good. Enterprising weavers, who began by employing journeymen, went on adding workshop to workshop, until they became great employers of labour. Robert Owen, of New Lanark fame, started his career as a great factory owner, with about £100. Sir Richard Arkwright began life as a barber and ended as a millionaire. Some poor inventors, of whom Watt is an example, became wealthy by their inventions. Some tradespeople and small shopkeepers, like Richard Crawshay, finding that making goods was more profitable than selling them, left business to become great industrialists.

THE CAPITALIST SYSTEM.—When the control of industry passed to these great industrialists, the importance of capital was considerably increased. England, during the Middle Ages, had been a relatively poor and backward country, the wealthiest people being the landowners. The increase of trade during the sixteenth century produced the rich merchants, whose wealth consisted of their trading capital, gold and silver plate, and coins, which they stored up. In industry, although the commercial side was organised on the basis of capital, on the manufacturing side the craftsman's skill was still his chief asset. But under the factory system, the whole of industry was organised on capitalistic lines. The owner provided the building, the machines, and the raw materials, and then employed people to work directly for him, under his supervision. Machinery speeded up production, and the accumulation of capital took place at a rate never before experienced. Industrialists re-invested their savings in their undertakings, providing bigger factories and more and more machinery. This went on throughout the nineteenth century, resulting in the present-day great industrial undertakings, with a total capital running into many thousands of millions of pounds. The capitalists, or their appointed managers, direct and control big concerns, employing wage-earners in hundreds of thousands.

Thus machinery produced the factory, the factory in turn created the industrialist, who became the founder of the modern system of industry.

THE CONCENTRATION OF INDUSTRY.—In the pre-factory days, industry was scattered throughout the country, but was found more especially in the eastern, southern and midland counties. The counties of the north and west, including Wales, were very sparsely populated. They were relatively unimportant agriculturally, and apart from coal-mining in Newcastle, iron-smelting in the Forest of Dean, and some cloth-making in Wales, they were almost barren of industry. Liverpool, in the seventeenth century, was little more than a village; Manchester a small market town; Birmingham numbered a few thousand engaged in the metal trades; Cardiff was a tiny village; and most of the present-day great industrial towns were either open country or, at the most, small hamlets. The Weald of Sussex was the greatest iron-producing district in the country, the iron being smelted in the villages, while the towns were mainly agricultural market centres. Thomas Hardy has given us wonderful pictures of some of these villages and towns in his novels. Woollen cloth was manufactured in the older corporate boroughs, like Norwich, Coventry, Nottingham, Worcester and Winchester, but the bulk of the cloth was made in country villages dotted all over the eastern and southern counties. The factory system not only enlarged the scale of production, but involved the transference or migration of industry from the south to the north and west. Water-power factories were built near running streams on hill-sides, but the application of steam to drive machinery produced a concentration on the great coalfields. Manchester was already complaining, in 1790, of the smoke nuisance from the many chimney stacks which appeared in the town. The scattered nature of industry gave way before concentration in a few large industrial centres, each specialising in particular manufactures. Village industry gradually disappeared and that of the town took its place. Even by 1800, the West Riding of Yorkshire had become the greatest woollen manufacturing district in the country, and in the course of the next fifty years, Norfolk, Suffolk, and the West Country declined as cloth-making districts, giant steam-driven factories

taking their place in Huddersfield, Leeds, Bradford, and other big Yorkshire towns. Lancashire and a part of the Lowlands of Scotland became the great cotton-manufacturing areas, Lancashire with its ring of spinning and weaving towns round Manchester, which became the greatest cotton warehouse in the world, and Scotland with its Paisley and Glasgow. The existence of coal measures became the deciding factor for the location of industries, and counties, hitherto unimportant, and only sparsely populated, became the hives of industry of the country.

THE MIDLANDS.—Among the most important of these was the Midland Basin, with Birmingham as its centre. Towns developed here with amazing rapidity. The Potteries trebled in size in ten years, while Birmingham doubled and trebled in successive decades. Wilkinson, "the iron-mad master," was one of the greatest industrialists in this area. In partnership with Boulton and Watt, he made the construction of the steam-engine possible. It was he who built the first iron bridge to cross the Severn in 1787. He also constructed an iron barge, and even prepared an iron coffin for himself. He realised, probably more than any other person living at the time, the enormous possibilities of iron, and he did a great deal towards solving the technical problems which confronted the industry. The great figure in the pottery industry was Wedgwood, who dug the first sod for the canal linking up the Potteries with Liverpool. His invention of a glaze for pottery established the supremacy of English pottery all over the world. Coal-mining, iron-smelting, engineering, pottery-making and chemical industries converted the Midlands into the "Black Country."

SOUTH WALES.—The discovery of iron deposits conveniently near the coal measures in South Wales, led to the establishment there of one of the greatest iron industries in the country. A London ironmonger named Richard Crawshay leased a tract of land, where Merthyr Tydvil now stands, and converted a barren rural area into one crowded with furnaces and forges. A canal was constructed connecting Merthyr with Cardiff, which ultimately grew from a village into the premier coal-exporting port in the country. Cornish tin was shipped across the Bristol Channel to

meet the Welsh coal, and the Welsh tin-plate industry developed alongside the iron furnaces. As a result, the population of South Wales multiplied within a generation, and another "Black Country" was created. Other districts, whose history was similar to these, were the Lowlands of Scotland, with their great coal and iron industries, shipbuilding, and textiles, the Notts and Derby Coal-field, and the Cleveland District of North Yorkshire.

Industrial developments took place with such rapidity, and on such a scale, that historians were quite justified in labelling this period "the Industrial Revolution." Agricultural rural England, with its old corporate boroughs, market towns, and countless villages, its rustic and somewhat slow-moving characteristics, gave way to a new order. In that order agriculture assumed a secondary place, and industry and commerce absorbed the activities of the bulk of the people.

THE EFFECTS OF THE FACTORY.—The factory system introduced industrialism into the world, with all that it meant, for the first time. It opened out a new era for humanity, during which practically every form of human activity underwent radical changes. The large-scale production of wealth, the harnessing of the forces of nature to the service of man, revolutionised economic life, and, on the whole, made possible a material life of a much higher standard than had before been reached. But, like all great changes, it brought in its train many problems before the country adapted itself to the new economic environment. England was the pioneer country of industrialism, and only experience of factory conditions could therefore unfold the possibilities. The experience was in many ways not a happy one, and other countries will always be indebted to Great Britain, not only for pioneering mechanical industry, but also for the knowledge of the problems which that change involved.

Some of the effects of the factory system have already been touched upon. It involved the concentration of people in large urban centres, and the dependence of these people for their livelihood on their daily work in the factories. Industry was removed from the village homes, where it had often been the by-occupation of people who were also farmers, and was transferred to separate buildings, where people specialised in one

occupation, or one small process. This separation of the place of work from the home was in many ways beneficial. The majority of the homes were too small even for healthy living, and when a part was devoted to work, it made matters still worse. There was also a great temptation to work long hours, and to overwork every member of the family, which did not contribute to domestic happiness. But a certain degree of independence remained to the domestic worker, and the possibility of increasing earnings by extra work provided a sense of greater security if hard times were experienced in agriculture.

The generation of hand-workers, the spinners and weavers, were naturally loath to give up their work and enter the factories. They put up a pathetic and stubborn, though vain fight, against the machine. In their attempts to compete, they submitted to a succession of wage reductions, which finally reduced their earnings to a miserably low level. The hand-loom weavers, who experienced such prosperous times at the beginning of the nineteenth century, suffered cuts in wages which finally reduced them from 25/- per week in 1800, to 5/6 in 1840. The race of hand-loom weavers finally died out, but their plight during this period, when they were struggling to survive, was miserable beyond description.

The mushroom growth of industrial towns created its own particular set of problems. Increased opportunities for social intercourse resulted, and the desire for education was stimulated. But, at first, the conditions in practically all of these towns were appalling. No housing schemes could possibly keep pace with their growth, and overcrowding, with its attendant evils of disease and vice, became universal. Thousands of people were crowded together in ill-ventilated cellars, and even the houses that were built were erected so hurriedly in most cases, that little thought or care was devoted to making them healthy. There were only exceptional cases of wise planning, the usual course adopted being to crowd as many houses near the factories as the land could accommodate. There were also the problems of providing a sufficient supply of water, and of sanitation and street cleansing, which took many years to solve. In the meantime, until reforms came, it is not surprising that these towns were extremely unhealthy, and that the death-rate among their inhabitants was abnormally high.

Factory organisation made possible minute division of labour, and with the aid of machinery, production was considerably cheapened. This meant ultimately a rising standard of living all round, as goods were brought within the reach of people who could not possibly have afforded them at the previous prices. But more than this, there took place a greater variety of production, which opened out a much fuller life for humanity. The growth of industry, in turn, stimulated the development of means of transport. The railway and the steamship were the products of the Industrial Revolution. Travelling, which used to be such a rare adventure, even in the eighteenth century, became the common experience of all, and one effect has undoubtedly been to broaden men's outlook on life.

The factory operatives complain that work, under modern conditions, has become monotonous and uninteresting, and there is probably much truth in this, although work at the spinning-wheel and hand-loom, before the age of machinery, was probably not much better in this respect. As a compensation, however, the working day has been shortened by stages during the nineteenth century, and thus leisure time has been considerably increased. The factory system, with its discipline, was a great change from work in the home, and that is probably why skilled craftsmen could not take kindly to it. The regularity of the factory, the nature of the work, and the complete dependence on wages, have all tended to make machines of the operatives. Pride of skill and love of craft have largely disappeared. Increased production has been accompanied by a serious loss of interest in what are inevitably mechanical and routine occupations.

EARLY FACTORY ABUSES.—The early history of factory conditions unfortunately does not make pleasant reading. Reference has already been made to conditions in the mining villages. These were reproduced in the early factories. Long hours of work, under appalling conditions; lack of proper means of sanitation and ventilation; numerous accidents due to improper care and protection of machinery; the employment of young children and women as cheap labour; these were only too common, until they were corrected by the pressure of public opinion and parliamentary action.

CONCLUSION.—By the middle of the nineteenth century, England was the premier industrial nation of the world, exporting manufactured goods to all corners of the earth. The natural resources were developed, capital became abundant, and inventors continued to find fresh outlets for the wealth of the country. The population increased rapidly, from about ten millions at the first census of 1801, to nearly four times that number by the end of the century. This vast increase was almost entirely absorbed in industry and commerce, and the country ceased to be self-sufficing in food and raw materials. These had to be imported, in increasing quantities, from distant parts of the world, the virgin prairies of America, the Argentine, and Australia. In order to pay for these imports, the exports of manufactured goods had to be increased. The English industrialised economic system therefore came to depend on its ability to sell, on the foreign market, a great part of its production, to enable the population to be provided with the necessaries of life, and many industries to be fed with raw materials.

CHAPTER VIII

THE REFORM OF ECONOMIC AND SOCIAL CONDITIONS

"*LAISSEZ-FAIRE*."—During the eighteenth century a change began in the economic policy of the government. There was a reaction from the Mercantile System towards the opposite doctrine of "*Laissez-faire*," or Economic Liberalism. Government intervention in matters concerning industry and commerce became increasingly unpopular, and the demand arose from manufacturers and merchants for freedom from restrictions, which they regarded as irksome, and contrary to the best interests of the country. They argued that restrictions, instead of promoting economic progress, checked it, and that individuals who were actually engaged in industry or trade, were the best judges of what was likely to promote the development of the country's economic resources.

The regulations of the Tudors, although they remained on the statute book, were gradually allowed to fall into abeyance, and their very existence was frequently forgotten. In spite of the famous Statute of Artificers, which required a seven years' apprenticeship for entry into every trade, people openly worked in crafts without serving such an apprenticeship. When the weavers petitioned for the enforcement of this condition to protect themselves, the act was totally repealed in 1815.

The government, during the rapid expansion of industry in the late eighteenth and nineteenth centuries, ceased to take a great interest in the economic affairs of the nation, believing that people, if left alone, would seek those paths most beneficial to themselves, and that competition between rival manufacturers and merchants would be a sufficient protection for the wage-earners and consumers. Thus when improvement in means of transport became essential, individuals were allowed to take over

the roads, and to construct the canals. When the factory system developed, manufacturers were not subjected to conditions regarding the building of factories or the employment of labour. Trade was similarly freed from restrictions, and the chartered companies, which possessed trading monopolies in their various spheres, disappeared one by one, trade being thrown open to all English merchants. Even the powerful East India Company lost its special privileges in 1833. In 1846, the corn trade was freed from restrictions, despite the strenuous opposition of the farmers, while in 1849, the Navigation Acts were repealed, thus throwing the carrying trade open to the ships of all nations. Protective tariffs on manufactured goods were reduced and finally repealed, instituting a system of complete freedom of trade for this country.

OPPOSITION TO "LAISSEZ-FAIRE."—Even when the country was making rapid economic progress, owing, it was claimed by the supporters of the *laissez-faire* policy, to the economic freedom enjoyed by industrialists and merchants, there was a good deal of opposition from various classes and in different parts of the country. The older industrial districts, which were losing their industries, claimed government assistance to prevent their threatened decay. The skilled handicraftsmen, who were subjected to the competition of machinery, appealed for government support to prevent the undermining of their livelihood. The agricultural interests, and those of the older industries in particular, maintained a steady agitation for protective tariffs, to prevent the competition of foreign foodstuffs and manufactured goods in the home market. Above all, a growing group of reformers, who had no material interests at stake, took up the attitude that it was the government's duty to prevent the economic exploitation of the workers, and to insist that a certain minimum standard of happiness should be assured to all members of the community. They pointed out that economic progress was not sufficient, and that it might take place at the expense of the health and happiness of the people. The interests of the individual employer, who tended to judge his success by the profits of his undertakings, did not always coincide with the interests of the state, if those he employed worked under unhealthy and insanitary conditions.

The workers were in a much weaker economic position than the employers, and competition between two parties unequally equipped, worked in favour of the stronger.

FACTORY ABUSES.—Actual experience of early factory and mining conditions gained support for the reformers. The employers who studied the general welfare of their workers were the exception, and even those complained that they were forced, in self-defence, to copy the methods of their rivals to avoid ruin. The conditions in the mines, particularly with regard to the employment of children of both sexes, and of women, compelled the government to take action by the passing of the Mines and Collieries Act of 1842, to make these practices illegal. The conditions in the water-power factories were, in the majority of cases, equally bad. Pauper children from the towns were apprenticed to these factories, where they lived entirely under the control of their employers. The wages paid to them were very small, and they worked exceedingly long hours on day and night shifts. It was reported that, in many cases, the beds were never unoccupied, one batch of children coming off work taking the place of another going to work. The Manchester Justices, even as early as 1784, refused to apprentice children to the cotton factories, because the conditions were so bad. A doctor employed by them, reported a few years later, that an epidemic, which had resulted in numerous deaths, was due to the poor nourishment, overwork, and unhealthy surroundings of the children. When the water-power factories became obsolete with the introduction of steam, factories were built in the towns, and the need for pauper apprentices disappeared, because sufficient labour was forthcoming without recourse to this method. The employment of children continued, even at such an early age as six years, and sometimes even less. It was quite common for the working day to last from 5 a.m. until 9 p.m. for men, women, and children, so that it was a case of from bed to work, and work to bed. Conditions were so poor in some of the textile factories, that writers were led to compare the position of the West Indies slaves favourably with the English factory operatives. The cleaning of machines while in motion was responsible for numerous accidents, as moving parts of machinery were exposed.

Insufficient time was allowed for meals, which usually had to be taken in the dust-laden and stuffy atmosphere of the work-room. There is no doubt that the health of all the workers, but particularly that of the women and children, suffered, and ill health, physical deformities, and fatigue, seriously affected their efficiency.

ROBERT OWEN.—One of the first persons to make a stand against the evils of the factory system was Robert Owen, himself the owner of large cotton factories. Owen was the son of a Welsh saddler. Beginning with a very small capital, step by step he built up a large manufacturing business. In 1800 he entered into occupation of some cotton mills in New Lanark, becoming connected with them by marrying the daughter of David Dale, a Scottish mill-owner. He had strong humanitarian tendencies, and he put into practice ideals which he believed essential for the welfare and happiness of his operatives, with the result that his mills became the models of his age. He provided neat cottages for his workers, and hygienic conditions at his mills. He reduced hours to ten a day, refused to employ young children under ten, and provided facilities for free education. He also opened a co-operative store on the factory premises for the benefit and convenience of the workers. His rival mill-owners prophesied financial ruin as the result of such reforms, but Owen made a large fortune from his mills in a few years, and his success was at least partly attributed to the greater health and efficiency of his workers. Owen failed to get the Scottish mill-owners to adopt his reforms voluntarily, but so great was his enthusiasm that he resolved to carry the fight to Westminster. He succeeded in getting a commission appointed to investigate factory conditions, but the act which was passed in 1819, on the recommendation of this commission, only embodied part of Owen's suggestions. His disappointment and his impatience drove him into revolutionary movements in later years, and he spent his fortune in promoting schemes designed to bring about a drastic reorganisation of the entire social system. Owen, as a result, lost his former influence, but he had sown the seeds which were to bear fruit in later years, and his own experience at least proved that economic ruin did not necessarily result from providing better conditions,

shortening the working day, and refusing to exploit the labour of children.

WILLIAM ASHLEY COOPER.—The man who was chiefly responsible for giving legislative effect to some of Owen's ideas was William Ashley Cooper, better known as Lord Ashley, or, as he ultimately became, the Earl of Shaftesbury. In 1833, on the death of Michael Sadler, M.P., another fervent advocate of factory reform, whose health was undermined by overwork, Lord Ashley was invited to become the chairman of a factory commission, which had been appointed under the chairmanship of Sadler. The choice for Lord Ashley was, a life of ease and luxury in high society, or devotion to an unpopular cause which would probably alienate him from many of his class. He chose the latter, and factory reform henceforward became his one absorbing passion in life. He introduced bills into parliament, and took every opportunity of urging the necessity for improved industrial conditions. He was the foremost advocator of the Mines and Collieries Act. When he died in 1885, factory conditions had been enormously improved, largely as a result of his firm and consistent work devoted to that end. Children, women, and even men, owe much to the unceasing toil of the Earl of Shaftesbury towards raising the general standard of human welfare in their industrial life.

EDWIN CHADWICK.—Chadwick was another tireless worker, although a difficult colleague to work with. He became interested in social reform in the early 'thirties, owing to the squalid conditions which he saw in London. He was concerned above all with the problem of unemployment, having had his attention drawn to this as a member of the Commission which was responsible for the reform of the Poor Law in 1834. He concluded that a great proportion of unemployment was due to preventable fevers, which could be abolished by proper means of sanitation, and healthy housing conditions in the towns. As secretary of the Poor Law Board, created to carry out the Poor Law Amendment Act, his work involved the investigation of pauperism and its causes, in all parts of the country. In 1848, as a result of his agitations, the Board of Health was founded, with the object of

investigating the problems of disease, sanitation, and town cleansing, and to suggest improvements. Whatever Chadwick took in hand, he threw his whole energies into, until his object was achieved. The Board of Health did some invaluable work under his forceful direction, towards the provision of adequate and healthy water supplies, proper means of sanitation, street cleansing and scavenging, and town-planning. The results of these reforms surpassed all expectations, and they contributed towards making the towns relatively healthy places during the last few decades of the nineteenth century.

In addition to Owen, Shaftesbury, and Chadwick, other reformers who agitated for improved conditions included Richard Oastler, who took up the cause of the textile workers in the north, and Francis Place, whose tailor's shop in Charing Cross became a kind of reform club, attracting to it social reformers from all ranks of society.

FACTORY LEGISLATION.—Factory reform by legislation began in 1819, although an earlier act had been passed in 1802, to prevent night work for pauper apprentices in the cotton factories. Legislation at first merely limited the employment of children ; but gradually its scope extended to include regulations for women, and even men, such as, the shortening of the working day ; the protection of machinery by fences ; the adoption of better means of sanitation and healthier factory buildings ; the regulation of night work ; the provision of regular mealtimes and proper mess-rooms ; precautions to prevent industrial diseases in the dangerous trades ; and finally the control of sweated industries, and the fixing of minimum wages in these industries. Every extension of government interference was violently opposed by the industrialists, on the grounds that the costs of production would be so much raised, that England would be cut out of the foreign markets by her competitors. But the reforms did not produce economic ruin, and finally the opposition died down, when it was apparent that the health and efficiency of the workers benefited considerably from the improved industrial conditions enforced by the laws. The act of 1819 applied only to the cotton industry, and prohibited the employment of children under nine, while those between nine and sixteen were not to work more than

twelve hours a day. No special machinery was set up to administer the measure, this being left to the local justices, and evasions were so common that the act was almost completely inoperative.

A more definite step was taken in 1833, when the first really effective Factory Act was passed. All textiles were included in the scope of this measure. The employment of children under nine was prohibited; children between nine and thirteen were not to work more than nine hours a day, and were to spend two hours at school; young persons between thirteen and sixteen were limited to twelve hours a day; machinery was not to be cleaned while in motion; and proper provision was required for meal-times and places. Four factory inspectors were appointed to administer this act, and to draw up annual reports for parliament on the state of the factories. These inspectors had full power to enter all factories at any time, and their experience and reports became the basis of later legislation. Incidentally, these reports provide us with very valuable sources of information about industrial conditions in the nineteenth century.

Difficulty was experienced in estimating the ages of children, and the agitation of the inspectors succeeded, in 1837, in securing an act requiring births to be registered, so that ages could in future be traced by birth certificates. The advocates of factory reform continued their agitation for shorter hours and better conditions, not only for children but also for women, and they hoped that the inclusion of men would come as a matter of course. They received considerable support from the factory inspectors, who learnt by their experience and comparison of different factories, that healthy working conditions, and reasonable working hours, were extremely beneficial, not only to the general welfare of the people, but also to their economic efficiency as workers. The inspectors also realised the urgency of providing schools, and they were prominent in the agitation for state-provided education, as the dame schools, and those provided on the factory premises, with a few exceptions, were notoriously unhealthy and inefficient.

In 1847, a bill to limit hours for women and young persons to ten a day, strenuously opposed in 1844, passed without opposition. In 1850 this was increased to ten and a half hours, but the working day was definitely fixed between 6 a.m. and 6 p.m.

or 7 a.m. and 7 p.m. This was a great triumph for Lord Ashley, who, in reply to a question "When will you stop?" stated during the debate in parliament, "Nowhere, so long as any portion of this mighty evil remains to be removed. I desire to bring all the labouring children of this Empire within the reach and the opportunities of education." The opponents of factory reform were gradually won over, and in 1860, Sir James Graham, who had been consistent in his opposition, was forced to confess that he had been mistaken in believing that the Factory Acts would be disastrous to trade, and that on the contrary, they had "contributed to the comfort and well-being of the working classes, without materially injuring the masters."

So far however, only the textile industries had been brought under government control. In 1860, trades allied to textiles, such as bleaching, dyeing and printing, were brought within the regulations. Another great inquiry was instituted into industrial conditions in 1863, prompted by the desire of the government to compel improvements in all industries. Conditions were so bad in the pottery industry, that the employers themselves petitioned for legislation. In 1867, the principles of the Factory Acts were applied to all factories and workshops, while in 1874 the age limit for employment was raised to ten. In the last quarter of the nineteenth century further regulations were imposed, requiring detailed sanitary precautions, proper ventilation and cleansing of factories, while special rules for safety were drawn up for dangerous trades like mining, explosives manufacture, and certain chemical industries. The age limit for the employment of children was fixed at eleven years in 1891. Subsequently, the Education Acts raised this to twelve in 1899, and finally to fourteen, as it remains at present, with the probability of a further extension to fifteen in the near future.

MINES AND COLLIERIES REGULATIONS.—On account of the special dangers attached to the mining industry, more stringent regulations and safeguards were imposed by the government in this case than for other industries. The Mines and Collieries Act of 1842 was only the beginning of a series of measures, which were designed to promote the well-being and safety of adult male workers, since children and women were excluded from this

occupation. In 1850, the inspection of mines was made more elaborate, and a regular system was organised, including annual reports from mines inspectors to the government. In 1872 all mines, including coal and metals, were brought under still more detailed regulations. Rules were drawn up for the safety of mines; daily inspections by a special staff attached to each mine were made compulsory; and managers appointed to mines were required to be duly qualified men. Quarries were added later. In 1908, the hours in mines were limited to eight a day, while in 1912, after a great industrial dispute, the Minimum Wage Act was passed for the coal-mining industry.

WORKMEN'S COMPENSATION.—Before 1880, employers were only required by law to compensate strangers for accidents on their premises. The workers were deemed to accept the risks of the trade, and could claim nothing for accidents. The Miners' Union began a great agitation to secure compensation for accidents, arguing that this would lead to greater care on the part of the employers to render mines safer. In 1880, the first of a series of Employers' Liability Acts was passed, making employers responsible for all accidents due to negligence on the part of their managers, or to defective machinery. In 1897 the principle was extended to include all accidents in certain trades classified as dangerous, unless the accident could be traced to wilful negligence on the part of the worker. In 1906, the Workmen's Compensation Act secured the principle of compensation for all workers earning less than £250 a year, irrespective of their occupation, the only exceptions allowed being, the police, service men, and out-workers.

THE TRUCK SYSTEM.—By the end of the nineteenth century, most of the serious abuses which resulted from the factory system had been eliminated by law, and a great industrial code of regulations had been built up, enforcing certain minimum standards on employers in all trades. At the same time, there had taken place a steady growth of trade unions among the workers, to bargain for better terms with the employers. The unions, in addition to agitating for wage increases, also aimed at improving general industrial conditions, and a strict observance of the

Factory Acts. One important reform produced by them was the abolition of the "Truck System," by which wages were paid in goods instead of money, and workers were subject, in many cases, to arbitrary fines and deductions from their wages, as penalties for imperfect work. An act of 1831 had made the truck payments and deductions illegal, but it was found very difficult to carry it out. The trade unions made strenuous efforts to wipe out the system, which, in some cases, had developed for the convenience of the workers, especially in places remote from adequate shopping facilities, like the early mining villages. Their work met with steady success. In 1887 truck payments in all cases except those of agricultural workers and domestic servants, who receive part of their wages in kind, were made illegal, and at present, owing both to legislation and trade union activity, very little of the system remains.

THE SWEATED INDUSTRIES.—While the workers in most of the important industries were organised in trade unions by the beginning of the present century, in some trades there was little or no organisation. A committee had been appointed in 1890 to investigate the wage conditions in some of these trades, and the report showed that low wages were very common in what were termed the sweated industries. No action was taken at the time, but in 1909 the Trade Boards Act was passed, setting up trade boards for the chain-making, lace-cutting, cardboard box-making, and tailoring trades, in all of which the wages paid were exceptionally low. The boards were intended to take the place of trade unions in these trades. They were composed of representatives of the workers, the employers, and the government, and they had the power of fixing minimum wages for the various grades of workers. In 1914, similar boards were established for the food-preserving, sugar, confectionery, and a few other trades. By establishing these trade boards, and enforcing minimum wage standards on employers, the government adopted the important principle, that the payment of inadequate wages to secure the production of "cheap" goods, was not desirable in the general interests of the nation. One effect was to stimulate the adoption of machinery and improved methods in these controlled industries.

THE PUBLIC HEALTH REFORM.—It is difficult for the present generation to realise the sordid conditions which existed, especially in the towns, less than a hundred years ago. The water supplies were inadequate and unclean; there were no organised methods of dealing with refuse; and systems of sanitation were unheard of. Fevers and plagues occurred so frequently that people thought nothing of them. Among the greatest reforms of the past century have been the elimination of plagues, and regulations for public health. The connection between fevers and impure water supplies and bad sanitation, had long been recognised by doctors. In the 'thirties of the last century, reformers like Chadwick began to urge the necessity of public control in these matters. In 1844, "Associations for the Health of Towns" were formed in various towns, and in 1848, the government established the General Board of Health, with powers to recommend and carry out health reforms. The board was abolished in 1854, but the government continued to devote its attention to the problem, and in 1858, the Local Government Board was empowered to carry out reforms.

Attention was concentrated mainly on the need for providing adequate supplies of water fit for human consumption, and pressure was brought to bear on local authorities to take action in the matter. The regular collection and disposal of refuse, the cleansing of streets, and the provision of means of sanitation were insisted upon as primary needs for the safeguarding of public health. Housing in the factory towns, to which reference has already been made, proved a difficult problem, and a good deal of attention was given to securing more hygienic and healthier conditions. Public apprehension was roused from time to time by serious outbreaks of fever, such as those of cholera in 1831, 1855 and 1866, and of smallpox in 1871. The country was seldom, if ever, free from these diseases, but periodically they became more general and severe, and at such times the question of their prevention became a foremost matter of public policy.

Doctors were unanimous in their opinion that the spread of infectious diseases was due to lack of care and improper means of sanitation. Prevention was merely a matter of public hygiene. More and more stringent regulations were imposed from time to

time, and in 1875 the Public Health Act was passed, summarising the regulations already in force, and extending public control over the conditions of food supply. The inspection of foods was started, and heavy penalties were provided for the adulteration and the sale of food unfit for human consumption.

Subsequent legislation has carried the control of public health a good deal further, and at present the code of public health measures is very extensive and detailed in character. Public authorities are now required to provide efficient covered-in drains, means of disposing of house and street refuse, and periodic inspection of water supplies. To prevent the spread of contagious diseases, isolation fever hospitals have been established, and doctors are compelled by law to notify the local public health authority of all cases of infectious diseases. The patients may then be compulsorily removed to the fever hospitals, where the local authority is satisfied that effective treatment and isolation cannot be secured in the home. The house concerned must also be disinfected. All local authorities have their public health departments, for which the public health committees of the elected councils are responsible. A medical officer of health, who must be a fully qualified doctor, is appointed to take charge of the department, assisted by a staff of sanitary inspectors, health visitors and nurses. He is responsible to the committee for the observance of the various public health measures passed from time to time. Plans for new houses have to be submitted to the local authority, and it has the power to withhold consent for their construction unless they conform to the requisite standards of air space and sanitary arrangements. More recent developments in public health include the appointment of school dentists and medical officers of health, to visit schools periodically, for the examination of children, and to advise parents on treatment required by their children. School clinics, to provide ordinary treatment for simple cases, have developed side by side with the above.

The results obtained from these public health reforms have been nothing short of miraculous. Increased attention has been devoted to medical research, and it is safe to say that at no time in the history of the world has medical skill and knowledge been as great as at present. Research has not merely been concen-

trated on the cure but also on the prevention of diseases, and the public health measures are designed primarily to secure the latter. Much remains to be done, of course, but the mortality rate has been considerably reduced within the past century, with the result that the average expectation of life is at present higher than it has ever been. The rapid increase in population since 1801 is due primarily to this, rather than to an increase in the birth-rate. On the material side only, apart from other considerations, this has had important consequences. A healthier population means more efficient workers, which in turn increases the productivity of the nation. Thickly populated towns, with their immense factories and works, have been converted into comparatively healthy places, though, unfortunately, the problem of the slums still remains.

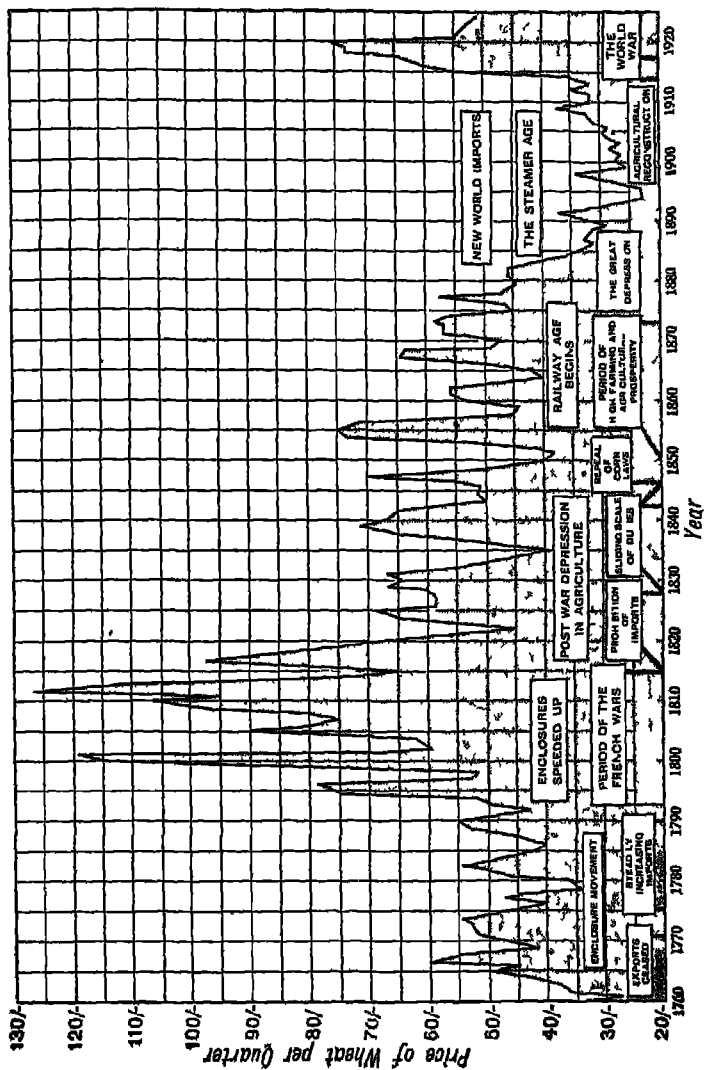
The twentieth century state thus plays a very important part in the economic and social life of the nation. Nothing illustrates better than the factory and public health acts the departure from the early nineteenth century attitude of *laissez-faire*. Not only have acts been passed, but elaborate machinery has been set up to carry them into effect. Tudor legislation suffered from the lack of means of administration: present day legislation is free from this handicap. Government departments, with their staffs of trained civil servants and experts, together with a whole army of officials working under the direction of local governing bodies, have come into existence as the administrative machinery of government. We are therefore living in, what some writers call "a new state."

CHAPTER IX

THE AGRICULTURAL REVOLUTION

AGRICULTURE AND THE INDUSTRIAL REVOLUTION—Although England was converted from an agricultural to an industrial country during the eighteenth and nineteenth centuries, agriculture remained a very important occupation. In fact, until the age of mechanical transport, the farmers benefited considerably from the industrial changes. The growth of population, and the concentration of people in industrial towns, provided an ever-growing market for agricultural produce, since imports of food in sailing vessels were only practicable on a comparatively small scale. England, in the main, was dependent on her own harvests. Under the stimulus of this growing market, farmers were encouraged to adopt improvements, and to invest capital in the land. Farming became speculative, highly capitalised, and, on the whole, very profitable. The development of means of transport, mainly owing to the needs of industry, reacted favourably on agriculture, by opening out a wider market for the farmers. No longer were they confined to their locality for the sale of their produce, but by canals, coasting vessels, and improved roads, they could dispatch their produce cheaply to all parts of the country, and in turn, they could purchase supplies of manures and fertilisers, like guano and bone ash, the use of which spread rapidly during this period. Even the railways, at first, proved of considerable benefit to the farmers, by completing the work of the canals in linking up the different parts of the country. It was when the railways brought the rich prairie lands of America within easy reach of the coast, and the steamers linked up the countries of the world by relatively cheap and rapid transport, that English farmers lost the monopoly of the home market.

THE FRENCH WARS.—A great strain was thrown on English



GRAPH SHOWING THE MOVEMENTS OF WHEAT PRICES FROM 1770 TO 1920

agriculture during the French Wars (1793-1815). These wars occurred just when industry was changing, and the industrial population was rapidly increasing. Until 1773, England had been, on balance, a corn-exporting country, but from that date home supplies could only satisfy home demand with difficulty, and some imports became necessary to supplement the produce of our own harvests. The outbreak of war interrupted the normal course of trade, and imports, particularly of bulky goods like corn, became more unreliable. To make matters worse, a succession of poor harvests occurred, three in particular, 1797, 1799 and 1812, being so deficient, that famine conditions prevailed in many districts. The price of wheat doubled on the average during this period, from about 40/- a quarter to 80/-, while, at times, the prices soared well above 100/-, at one time reaching the famine price of 126/-. (*See Graph.*)

The continuous pressure on the food supplies, an experience that was new to this country, brought an era of unprecedented prosperity to English farmers, and stimulated them to adopt improvements, to invest capital in their farms, and to extend their cultivation. The farmers had little difficulty in finding markets, so they could concentrate on producing as much as they could. Nothing was deemed inaccessible to the plough, waste lands being ploughed up, marshes drained, good pasture land converted to corn, and even the sides of hills being cultivated. The demand for farms was so keen that scarcely a farm was unoccupied. Landlords were able to choose their tenants from a number of applicants, and even at times to auction off their farms to highest bidders. They shared in the general agricultural prosperity by receiving double and treble the rents when farms were re-let. Farmers took more interest in agricultural literature, and studied the most up-to-date methods. They borrowed money freely to improve their farms and to increase their stock, while their standard of living rose so much that contemporaries complained that "they even vied with their superiors in manner and dress," and "it became difficult to distinguish a farmer's daughter from the squire's." By means of more extensive cultivation and improved methods, agriculture managed to keep pace with the growing demand, and in good harvests to grow a surplus.

THOMAS COKE.—One of the best known of “the reforming landlords and farmers” of this period, was Thomas Coke, the owner of extensive estates near Holkam, in Norfolk. Coke studied the methods of the eighteenth century pioneers, Tull, Bakewell and Townshend, and applied them to his own estates, which were described as “nothing more than a barren wilderness,” before he took them over. He literally poured capital on the land, investing over £500,000 in drainage, fertilising and other improvements. Adopting Bakewell’s methods, he improved the breeds of his animals, and made stock-raising one of his chief activities. He believed in cultivating the best kinds of artificial grasses, and used to give simple lessons in botany to children living on his estates, afterwards sending them out to collect the best grass seeds they could find, rewarding them according to the quantity and quality of the seeds they brought back to him. He adopted the systems of deep ploughing, and drill husbandry, and also a scientific system of crop rotation, with root crops and grasses alternating with corn. The results of his work were of indescribable benefit to agriculture, and very profitable to himself. His tenants, although paying high rents, experienced almost unbroken prosperity, and he had no difficulty in letting a farm when vacant. It was his practice to hold, annually, “open weeks” on his own model farm, to which all were cordially invited. These “sheep-shearings,” as they were called, attracted farmers, not only from all over England, but from Europe and even America, Coke’s reputation being so wide-spread. At one of these, held in 1817, there were over seven thousand farmers present. We may be assured that they returned to their own farms impressed by what they saw, and resolved to practise the methods of so able and efficient a farmer.

THE POST-WAR DEPRESSION.—When the war ended in 1815, English agriculture had made a considerable advance in methods and in acreage cultivated. The farmers generally however were heavily mortgaged, money having been freely borrowed to invest in improvements. The majority were also highly rented, rents, often out of all proportion to the value of the farm, having been agreed upon on the basis of high war prices. So accustomed had farmers grown to high prices that they expected these to continue

after the war, but the return to peace conditions produced a great slump in prices. With the exception of two years, 1817 and 1818, the average price of wheat fell below 60/- a quarter. This fall produced a great depression in English agriculture, which lasted almost without a break until 1840. A good deal of land went out of cultivation, or was converted to pasture; farmers complained of high rents, which had to be reduced considerably in most cases; and the progress of improvement was checked. The government tried to help the farmers by adopting a policy of rigid protection. Three Royal Commissions (in 1820, 1833 and 1836) were appointed to investigate the causes of the depression, and to suggest remedies. But nothing could prevent the value of the land falling, as the prices of agricultural produce remained on a permanently lower level during peace times, as compared with the war period. Farmers who failed to meet their obligations, whose mortgage payments were too heavy for them, or whose expenses of cultivation were greater than their receipts, were ruined, and many thousands went bankrupt. The depression fell most heavily on the small farmers, who had little or no reserve to fall back upon, and on those who farmed heavy clay soils, which were more expensive to cultivate than the medium and light soils. The wealthier farmers, on the whole, survived, and by cutting down their expenses, wages and rents, they were able to maintain their position. The smaller farmers were weeded out, and the period was marked by the final triumph of the large farm and the capitalist farmer.

THE CORN LAWS.—Some reference has already been made to the Corn Laws. The traditional policy towards agriculture was one of rigid protection, a policy which was maintained until the middle of the nineteenth century. During the Tudor period, the import of corn, except under crown licence during times of extreme scarcity, had been prohibited, but on the other hand, in the interests of consumers, the export of corn had been similarly prohibited except when prices showed a glut on the home market. Towards the end of the sixteenth century, greater freedom of export was allowed, and the import of corn was subjected to duties varying with the price. The policy was justified by contemporaries on the grounds that the maintenance of self-

sufficiency was of primary importance, especially to an island country like our own. This was a cardinal feature of the mercantile system. Imports of food, even if possible on any considerable scale, were undesirable from the mercantilist point of view, since our treasure would be drained away to pay for them. The Tudors, however, had been equally anxious to preserve plenty at home. This was partly responsible for their activity against enclosures, and in the various acts of the period the desire to preserve sufficient supplies of corn at moderate prices was consistently expressed.

During the seventeenth century the interests of the producers came more and more to the forefront of government policy. Farmers were anxious to preserve their protection against imports, but did not take kindly to restrictions on exports. The export laws were modified from time to time in their favour until finally, in 1689, the export of corn was artificially stimulated by the payment of bounties. The Corn Bounty Act of that year allowed a bounty of 5/- for every quarter of wheat exported when the price in the home market fell below 48/-, other grain receiving proportional bounties. This act remained in force until 1815, and between 1700 and 1773, over six million pounds were paid in bounties. To justify this policy, it was urged that every effort should be made to encourage home production, and that the interests of the consumers were best served by encouraging the producers. Laws which protected the farmers against imports did not answer the purpose, since England was normally a corn-exporting country. In order to guarantee a minimum price to the farmer, it was considered expedient to pay these bounties, so that surplus corn above home needs could find markets abroad more easily.

About the year 1773, the export of corn practically ceased, and England began to import corn instead. Thus corn laws affecting exports became relatively unimportant while the farmers looked to tariffs against imports for protection. In 1791, the principle was adopted of a heavy tax (24/3) on imported wheat, when the price in the home market was under 50/- a quarter, 2/6 when the price was between 50/- and 54/-, and a nominal duty of 6d. above 54/-. During the war, prices remained uniformly high, and war conditions prevented large imports.

But as soon as the war was over, prices fell suddenly, in response to a good harvest, and farmers had groundless visions of enormous quantities of corn stored up in Europe, ready to flood the English market. Demands for more effective protection came from farmers, who hoped that the high war prices could be maintained during peace times, and from landowners, who desired to keep up the high rent level. After enormous opposition and some rioting, especially in the towns, the Corn Law of 1815 was passed, which prohibited the import of wheat when the home price was at or under 80/- a quarter, with free imports above that price. This act remained in force until 1828, although it was suspended for two years from 1825, and it had the effect of almost completely stopping foreign trade in corn. The prohibition of import, however, did not prevent the fall in prices, the produce of agriculture under improved methods and extended cultivation being, on the whole, adequate for the needs of the growing population. By 1828 this act was condemned on all sides, and it was replaced by a measure which substituted a sliding scale of duties, which varied with the price of home-grown wheat. An elaborate scale was drawn up by which a duty of 1/- was levied when wheat was at or above 73/- a quarter, the duty rising sharply for every shilling fall in the price, until at 66/-, it was 20/8. The period 1828 to 1840 was marked by fairly low prices, but the growth of population necessitated gradually increasing imports. The price of wheat began to rise in 1835, and the corn duties began to yield a considerable revenue.

THE ANTI-CORN-LAW LEAGUE.—In the meantime a great agitation was set on foot for the total repeal of the corn laws, and the establishment of free trade in food. The Reform Act of 1832 had given greater representation in parliament to the industrial districts of the north and west, and a growing body of M.P.'s, antagonistic to protection, was returned at each successive election, to Westminster. In 1839, the Anti-Corn-Law League was started at Manchester, the home of free trade, under the leadership of Richard Cobden and John Bright. The League adopted, as its sole end, the abolition of the corn laws by political means, and it exerted all its efforts to secure that end. Public opinion was roused by speeches, lectures and pamphlets, and

a special newspaper was supported by its funds, of which it had no lack, since numerous wealthy manufacturers were members Parliamentary candidates, pledged to support "the Repeal," were assisted at elections, and giant petitions were prepared and showered on the government. The conflict between the industrial and agricultural interests, the one using as its battle-cry "cheap food for the people," and the other "protection for the farmer who provides our food," became at times extremely bitter, rousing campaigns in the country being followed up by exciting scenes in the House of Commons.

THE REPEAL OF THE CORN LAWS.—Sir Robert Peel came into office in 1842, pledged to reform the finances of the country, and to maintain the principle of protection for agriculture. In introducing his Corn Bill in 1842, Peel declared himself completely in favour of protection. Four years later the same statesman, whose high principles no one has ever doubted, admitted that he had become converted to free trade, and he carried through the measure repealing the corn laws in the teeth of opposition from the party of which he was the leader. The measure of 1842 maintained the principle of a sliding scale of duties, but on a lower basis. The maximum duty was fixed at 20/-, irrespective of the price of wheat up to 51/-. Above that price, for every 1/- increase, the duty fell by a similar amount. Imports steadily increased until, on the average, over a million quarters of wheat were imported annually, showing that this country had become permanently dependent for part of its supplies on foreign corn. While the old arguments were used in support of protection, the manufacturers urged that the corn laws restricted trade, since foreign countries could not buy English manufactured goods, if England did not purchase their corn in exchange. Duties on imports meant higher prices for food, and thus higher wages for the workers, which increased the cost of production of English goods, and weakened the power of competition on the foreign market. Cheaper food meant lower wages, and lower wages lower prices for manufactured goods. The farmers retorted that if they were ruined by cheaper foreign corn, the manufacturers would suffer from less home trade, since they were the principal consumers of their goods.

Matters came to a head in 1845, when a great famine occurred in Ireland, consequent upon the failure there of the potato harvest. Indescribable suffering followed, in spite of extensive relief measures, and to facilitate the import of food into Ireland, all restrictions on the corn trade had to be suspended. Peel was greatly troubled by these events, and probably, the possibility of a similar disaster in England completed his conversion to the principles of free trade in food. In any case, he was convinced from the results of his earlier reforms in this direction, that the repeal of the corn laws would not bring ruin on English agriculture. England would still be dependent, in the main, on home produce, owing to the costs and difficulties of transport, which could only allow of imports from European countries, whose surpluses were not very great. In 1846, the corn laws were repealed, a three-year respite being allowed for farmers by the provision of moderate tariffs, which were, however, suspended in 1847. In 1869, even the nominal duty of 1/- a quarter, which was kept on for registration purposes, was abolished. The League was disbanded immediately after the repeal, which it claimed as its own victory. But it was inevitable that sooner or later corn protection, which raised the price of food to a population predominantly industrial, should be abandoned in the face of popular agitation.

THE GOOD YEARS.—Although complete ruin had been predicted for the farmers by the loss of protection, this did not take place, at least not immediately. They still had the "protection of distance," since it cost on the average between 8/- and 10/- a quarter to bring corn into the country. Prominent agriculturalists urged that the farmers' remedy lay in "High Farming," by which they meant the adoption of the most up-to-date methods, and the outlay of capital in improvements like draining and fertilising, to combat the competition of foreign corn, grown under conditions of lower wages, lower rents, and lighter taxation than prevailed in England. Although imports immediately increased, prices did not fall as expected. In fact a steady rise in the price level occurred after 1850, due partly to the growing population, and also to the discovery of gold in California and Australia. The period (1850-1873) was one of

almost unexampled prosperity in England. Exports of manufactured goods expanded considerably; industries developed rapidly; employment at rising wages was brisk; and the average standard of living was appreciably raised. Agriculture shared in the general prosperity. Improvements were multiplied, and considerable additional capital was sunk in the soil. The wars on the Continent, between Prussia and Austria, and Germany and France, hampered the trade of those countries and increased their demand for English manufactured goods, textiles and munitions, while the American Civil War (1861-64) checked the competition of American produce. In 1870 English agriculture still held the greater part of the home market. Farmers were prosperous as a class, farms were large and well equipped, while an enormous amount of capital was invested in the land.

THE GREAT DEPRESSION.—In 1873, almost without warning, a great depression descended on English farmers, as the result of competition from the New World. This competition became effective owing to the development of mechanical transport. The railway opened up the vast virgin soils of the Middle West of America, and enabled their produce to be sent quickly and cheaply to the ports. The steamer linked the corn ports of the New World with the great markets of Europe, crossing the Atlantic in as many days as the sailing vessel had taken in weeks. The competition between the sailing vessel and the steamer, combined with the greater efficiency of the latter, reduced freights to a level which enabled bulky cargoes to stand the transport charges of the longest of voyages. Farming in England was intensive and highly capitalised, while the rich prairie lands of America were very much cheaper to cultivate. Other European countries erected tariff barriers against American produce, and free trade England was flooded with American corn. Within twenty years the average price of wheat fell to less than half, which, although beneficial to the mass of the people, spelt ruin for English corn-growers. Land went out of cultivation by hundreds of thousands of acres, some of it returning to its "natural" state, while a part was converted to pasture for stock breeding. Only the fertile lands of the east and south could be kept under corn. The pasture farmers at first did not feel the competition,

but the invention of refrigeration in the 'eighties created the trade in frozen meat from the Argentine, America and Australia, which entered into competition with English meat. The preference for home-killed meat, and an increase in meat consumption, however, modified the competition of frozen meat, and English pasture farmers, although faced with reduced profits, managed to hold their own. Faced with rapidly falling prices and dwindling profits, English agriculture experienced the greatest depression in its history. Thousands of farmers were ruined, and enormous agricultural capital was sacrificed. On the other hand, the gain from cheaper food was more than an offset to the losses experienced by agriculture, since England, at this time, was seventy-five per cent. industrial. Agriculture finally lost its predominant position in the economic life of this country.

AGRICULTURAL RECONSTRUCTION.—The loss of the monopoly of the home market in corn compelled the farmers to devote their attention to the production of alternative goods, in which they were not subject to competition. Apart from the richer corn and pasture districts, this meant the reconstruction of agriculture along non-competitive lines. Fresh meat still held the market, and pasture farming remained profitable, with a growing market. Most of the corn land withdrawn from cultivation was in fact converted to pasture. Dairy-farming, the production of fresh milk, butter and cheese, were also stimulated, especially in the Midlands and the west. Near the towns the farmers concentrated on market gardening, producing fresh vegetables and flowers. Other branches of agriculture, which became quite important were, poultry-farming, fruit and potato-growing, and the cultivation of hops. Apart from corn-growing and stock-breeding, in which the large farm holds an advantage, the small farm was restored to favour, and attempts were made by the government to promote small holdings. Various acts were passed to enable the county councils to acquire land, and to assist small-holders to establish themselves in the various branches of agriculture for which the small farm was suitable. By 1914, agriculture had adapted itself to the new conditions. Farming was fairly prosperous, and moderate success had been achieved in the creation of small-holdings.

RECENT DEVELOPMENTS.—The Great War gave a temporary stimulus to corn production, owing to the uncertainties of foreign trade. The government took active measures to increase the cultivation of wheat, and enormous tracts of pasture land were brought under the plough. But immediately after the end of the war, on the resumption of the normal peace trade, this land again went out of cultivation and returned to pasture. In the meantime, strenuous efforts are being made to promote agricultural education, and to revive agriculture. Agricultural land has been relieved of all rates; the Board of Agriculture issues, free of charge, valuable pamphlets on agricultural subjects; research is active on agricultural problems to increase yields and check plant diseases; and various schemes to encourage farmers to co-operate in grading and marketing their produce are in progress. While England is to-day predominantly an industrial and commercial country, and her economic prosperity depends in the main on these activities, agriculture still gives employment to nearly a million people.

CHAPTER X

MECHANICAL TRANSPORT

THE TRANSPORT PROBLEM.—The growth of towns, with their demand for building material and foodstuffs, the concentration of industries, with their demand for raw materials and their supply of manufactured goods, the development of the coalfields and the ironworks, all contributed to increase the pressure on the transport system of the country. By the beginning of the nineteenth century, the canals were literally choked with traffic in the industrial districts, and the roads could render but little assistance. Conditions were worse in some districts than others. The Trent and Mersey Canal, although an additional tunnel was constructed in an attempt to cope with the increased traffic, was quite inadequate for the needs of the district. The canal system of Birmingham, on the other hand, was so good, that complaints from this area were few. But in any case, manufacturers had to make considerable allowances in their plans owing to the defects of the canals. The construction of canals, and the improvement of roads, had made possible the beginnings of industrial concentration, but the continual growth of large-scale enterprise outstripped these methods of transport, and created the need for greater carrying power, which railways and steamships subsequently satisfied.

THE ORIGIN OF RAILWAYS.—The history of the railway is much older than that of the steam locomotive. Its origin may be traced to the rough planks laid parallel on the uneven tracks leading from coal-pits to the rivers. It was found that a horse could draw between ten and fifteen tons of coal, in specially built waggons, along these wooden rails. The method was quite commonly practised near Newcastle in the early part of the seventeenth century, and, as previously intimated, it became the

customary practice underground. Its obvious advantages for heavy loads, led inevitably to its adoption for the transport of coal and iron ore, wherever these were mined. The planks were roughly fastened at intervals to cross planks, or sleepers. The first improvement, which dates from about 1650, consisted of laying planks on top of those worn out. This raised the level of the railroad, and enabled the sleepers to be covered with earth, which protected them, in addition to providing a smoother road for the horses. These wooden rails were not very durable, and a little later they were further improved by being covered with plates of cast-iron, these roads being named "plateways." The step from this to a solid iron rail was but a short one, and about 1738, the wooden rail was replaced at collieries in Whitehaven by one made of cast-iron. In some cases, the rails were flanged on the inside, to prevent the waggons being derailed. A turnpike trust objected to a railway of this description crossing its road, owing to the danger to the road traffic. To overcome the difficulty, an engineer, named William Jessop, invented the flanged wheel in 1788. Thus, before the end of the eighteenth century, the essential principles of the railway had been worked out. There were many of these iron railways in existence by this time, most of them being pit undertakings, owned by colliery proprietors, for the transport of their coal to the canals and rivers. The first public railway, the Surrey Iron Railway, was built in 1801, between Croydon and the Thames at Wandsworth, to carry mainly corn and coal. The owners of this track charged tolls for its use on similar principles to the turnpike trusts. This was the forerunner of similar undertakings which produced the modern public railway.

MOTIVE POWER.—The motive power for these early railways was usually the horse, although human power was sometimes used. Experiments were made with sails, in America and in this country, one example being at Neath, in South Wales, where Sir Humphrey Mackworth, a local colliery proprietor, adopted the method. Watt's invention of the steam rotary movement naturally suggested the possibility of using steam as the motive power, and stationary engines, placed at intervals, were recommended by many engineers for drawing loads along the railways. William

Murdock was probably the first man to build an engine propelled by steam-power, although the honour is claimed by others. Murdock found time, during his busy work supervising Watt's steam-engine at the Cornish tin mines, to make a small working model of a steam-engine in 1784. After experimenting with it in the dining-room of his home at Redruth, he tried it on the road one dark Saturday evening. The "apparition of a fiery monster," travelling apparently without any motive power, gave the local parson, who chanced to meet it, the fright of his life. The engine, however, never got beyond the model stage, and Murdock did not patent it. His pupil, Richard Trevithick, went a stage further. In 1802, he built the first English locomotive at the Coalbrookdale ironworks. Within the next few years, he constructed two others, one of which, the "Catch-me-who-can," he exhibited in Euston Square, London, in 1808. One of his engines exploded, another was damaged by overturning, and Trevithick, who had come to the end of his financial resources, was compelled to give up his experiments. In the meantime, other engineers were working at the same problem, and constructing locomotives for colliery companies. One of them, Blenkinsopp, urged that a smooth wheel would never run on a smooth rail, and in 1811, he constructed a locomotive with cogged wheels running on specially made cogged rails, on the principle of the rack and pinion. This engine in fact worked successfully at a Leeds colliery for about twenty years. In 1813, three Wylam engineers named Hackworth, Hedley and Foster, constructed the famous "Puffing Billy," which is now on view at the South Kensington Museum. Wylam was the birthplace of George Stephenson.

GEORGE STEPHENSON.—Stephenson was born in 1781, one of a large family. His father was a fireman employed at the Wylam colliery, and could not afford to give his son any of the advantages of education. As a lad he gained his first experience of the railway by keeping his younger brothers and sisters off the wooden waggon way, which ran just in front of the small cottage where he lived. His interest in steam-engines was roused by the sight of the old pumping engine which his father fed with coal at the local colliery. It was his ambition to become an engineman, and he

began to work quite young, as the driver of the gin horse at Dewley Burn Colliery, to which his father moved. At fourteen years of age he succeeded in getting appointed assistant fireman to his father, at one shilling a day. He studied the engine very carefully, and to such good purpose, that three years later, he was put in charge of the pumping engine at a new colliery near his birthplace, his father being appointed fireman at the same time. Thus, at an early age, he was in a more responsible position than his father, and earning a higher wage, about three shillings a day. He could neither read nor write, and scientific books on engineering subjects were therefore barred to him. Nevertheless he found time to take lessons from a local school teacher for three evenings a week, and soon overcame his limitations. He was later promoted to engineman at Killingworth, near Newcastle. In 1810, there was installed at the colliery a Newcomen engine, which, despite the efforts of the engineer, worked very unsatisfactorily. Stephenson was called in to assist, and he succeeded in remedying the defects. After that he acquired considerable local fame as an "engine doctor," being consulted by colliery proprietors for miles round. Stephenson then took up the study of the steam locomotive, first familiarising himself with the work already done, by studying the locomotives, particularly at Wylam. Although many collieries were using locomotives, they were far from satisfactory. Their coal consumption was so heavy that they were more expensive to work than horses; they could not climb even easy gradients; and they broke down frequently. Stephenson built his first engine in 1814, the "Blucher," which was not much better than its contemporaries, its maximum speed being four miles an hour. While working on improvements to this engine, Stephenson conceived the brilliant idea of using the escaping steam as a suction draught for the boilers, and this principle, which meant less coal consumption, and greater heat, established the success of the locomotive. By 1822 he had constructed for various collieries five engines embodying this principle. A little later Stephenson began his connection with public railways, which became his chief work for the remainder of his life.

THE RAILWAY AGE.—The modern railway age opened with

the construction of the Stockton to Darlington railway, sanctioned by parliament in 1821, and completed by 1825. The railway was projected by Edward Pease for the purpose of working the rich mineral deposits which existed round Darlington. It was intended to use horses as the motive power, but Stephenson persuaded Pease to give the locomotive a trial. He was invited to survey the line, and was subsequently appointed engineer, at £300 a year. One of his locomotives, the "Locomotion," was employed on the railway until 1850, and is now mounted at the North Road Station, Darlington. Horses were used as well on this line, and they were so superior to the locomotives, that the directors were only prevented from giving up the latter after eighteen months' working, by the success of the "Royal George," a locomotive built by Hackworth, who had been the manager of Stephenson's works. This engine was not stopped by a heavy head-wind, like some of the others, and proved much more economical to run than horses, which were subsequently withdrawn. The Stockton-Darlington Railway was constructed for the transport of goods, but it soon became apparent that this form of transport appealed also to passengers, for whom provision had consequently to be made. Private coaching companies were at first allowed to run their passenger coaches on the line, but experience soon showed that railway companies, in the interests of safety and efficiency, would have to assume complete control of the traffic. In fact, applications were made by private people for permission to run their own locomotives, on payment of a toll to the company, but these were not entertained, for obvious reasons.

The next important public railway was that between Liverpool and Manchester, parliamentary sanction being only obtained for this after strenuous opposition by the canal interests. Stephenson was appointed the engineer and surveyor. Considerable public opposition and agitation was directed against the railway, both on the platform and in the press of the country. Only a few far-seeing individuals realised the enormous possibilities of the railways, the mass of the people regarding them as a dangerous innovation, that would ultimately ruin "peaceful rural England." Campaigns were organised against the "fiery creations of the ironmasters," on the grounds that "railways would prevent

cows grazing and hens laying ; they would poison the air and kill all the birds ; houses alongside the lines would be burnt by the flying sparks (spark-catchers were made compulsory for locomotives for this reason) ; the horse would become extinct ; and life and limb would be imperilled by accidents and boilers bursting."

The promoters of the railway were undecided whether to use stationary winding-engines, horses or locomotives as the motive power, and engineers consulted by them were divided in their opinions as to the best to adopt. To decide the matter the famous Rainhill trial was held, at which a prize of £500 was offered by the company, for the most successful locomotive. Of the five that entered, only Stephenson's "Rocket" qualified, but its performance surpassed all expectations and won the prize. It attained a maximum speed, at one point, of thirty-five miles an hour, and completed the journey between Liverpool and Manchester in two hours. This decided the company, and the locomotive was adopted as the motive power. The railway was opened on 14th June 1830, the celebrations being unfortunately marred by a fatal accident involving the death of William Huskisson, the President of the Board of Trade, who was knocked down by the "Rocket."

THE RAILWAY NET.—The success of these two railways opened up the era of mechanical transport, and within the next ten years, a number of schemes were submitted to parliament for approval. There was a mild boom in railway construction in 1837, but many of the schemes were failures, and construction fell off. Another boom occurred between 1844 and 1847, during which most of our principal railway lines were either planned or constructed. In 1843 there were about 1,900 miles of public railways in Great Britain, a mileage increased to nearly 5000 by 1848.

Most of the lines constructed were short stretches, built for purely local purposes, while as many as six different gauges existed. Of these the most common were the Stephenson gauge, 4ft. 8½ ins. (taken from the width of the waggons used in the collieries), and the Brunel gauge of 7 ft, which was adopted for the Great Western Railway.

There was, at first, no conception of a national plan on which to construct railways, except perhaps in the minds of a few railway enthusiasts like Stephenson himself. The whole thing was quite new to the generation living at the period. Some towns, for example Nottingham, even petitioned parliament to compel railway promoters to construct their lines a certain distance away, so that people should not be annoyed or disturbed by them.

But towards the middle of the century their value and possibilities were more generally appreciated. Railways began to be regarded as national highways of transport, and the need for main trunk lines was recognised. This set on foot a movement towards the amalgamation of railway companies, the first important example being that effected by the Midland Railway Company in 1843, followed by the North-Western three years later. A uniform gauge was necessary for trunk lines, to provide for through traffic. The question then arose as to which gauge should be adopted. There ensued a bitter controversy on this issue, the famous "Battle of the Gauges." The issue rested mainly between the narrow or Stephenson gauge, and the broad or Brunel gauge. For various technical reasons the "battle" ended in favour of the former, which is the standard gauge of the English railway system at present. The last section of the Brunel gauge was converted by the G.W.R. in 1892. There are still a few isolated cases of varying gauges, such as the narrow-gauge highland railway in North Wales, connecting the slate quarries of Festiniog with the coast.

THE RESULTS.—Railways completed the work begun by the canals and roads in unifying the whole country, and in providing an effective and cheap form of transport. The transport problem ceased to worry manufacturers and merchants, and large-scale organisation of industry received a strong impetus. Any difficulty in transporting building materials, coal, raw materials, and foodstuffs to the towns was removed, and thus the growth of towns was enormously accelerated. Swindon, Crewe, and Derby owe their origin to the railways; Middlesbrough grew from a solitary farmhouse in 1825, to a town of 6000 ten years later; Hartlepool increased from 1300 in 1830 to 15,000 in thirty years; Stockton-on-Tees increased from under 2000 to over 16,000 in

the same period, and Brighton rose from 40,000 to 100,000; Rugby and Swindon quadrupled in size; and London's teeming population flowed out to the suburban areas, which grew so rapidly, that London became one continuous town for miles round the original city.

The speed of the locomotives increased with improvements, and thus distances were further shortened. A journey that took days before, was reduced to as many hours. Business organisers benefited from the greater regularity and punctuality of transport, and they were enabled to make their plans ahead with far greater confidence, knowing that at least transport difficulties would not interfere with them. Modern business depends very largely for its smooth running on punctuality and regularity of deliveries.

England was the first country in the world to possess a railway net, and this gave her an enormous economic advantage over other nations. The development of the interior of the country, begun in the canal era, was stimulated, both farmers and manufacturers benefiting by the new transport facilities provided for them by the railways.

Both the canals and the turnpike roads suffered from the competition of the railways. Some canals managed to keep going by cutting their rates, and catering for the bulkiest goods, but a large number went bankrupt. Canal companies were invariably opponents of railway bills in parliament, and railway companies sometimes found it cheaper either to buy the canals outright, or to secure a controlling interest in them, than to fight their opposition in parliament. The turnpike trusts fared even worse. They were in a sorry financial plight before the railway age, but the disappearance of the stage-coach and the mails, robbed them of their most lucrative source of income. The last coach left for Bristol in 1843, and for Plymouth in 1847. Later, coaches for short distances disappeared. This completed the downfall of the turnpike trusts.

Railways were constructed after 1850 in other countries, with similar results to those experienced in England. Where there were great land distances, as on the mainland of Europe, and in America, they had an even greater influence on the economic progress of the countries concerned. The vast lands in the interior of America were almost undeveloped before the railway

age, but the construction of trans-continental railways linked up these areas with the coast, and enabled them to send their produce quickly and cheaply to the ports, for export to other countries.

THE CONTROL OF RAILWAYS.—At first, the government adopted its traditional policy of *laissez-faire* towards the railways, being merely content to sanction their construction by private companies, although certain conditions about maximum tolls and dividends were included in the railway acts. The canals were expected to provide that competition to which the advocates of *laissez-faire* pinned their faith. It was soon realised, however, that canals could not compete effectively with the railways, and that the latter therefore possessed the power of monopoly, especially when amalgamations occurred, and when canals were bought up. Gradually the government abandoned its *laissez-faire* attitude, and established by legislation a system of control of the railways, in the interests of the state and the public.

In 1844, the railway companies were forbidden to buy up the canals; but experience showed that this did not prevent them buying controlling interests in the canal companies. Thus in 1850, the companies that acquired canals were ordered to maintain them at their existing state of efficiency, in the hope that certain classes of goods would still go by canal, if cheaper terms were quoted for their transport.

The chief method by which the government attempted to control the railways, however, was by the appointment of Railway Commissions working under the direction of the Board of Trade. The first of these, consisting of five members, was set up in 1846, for five years, but so little power was given to it that it was almost completely ineffective. In 1854, Cardwell's Act established another commission which, although more effective than its predecessor, was not really successful. In 1888, the government, faced with further railway amalgamations, and public complaints against their rates, was prepared to go further. The Railway and Canal Act was passed, setting up a permanent Railway and Canal Commission, composed of three experts, including a judge, a trader's representative, and a representative of the railway companies. The railways were required by the act to furnish details of their rates to the Board of Trade, and the commission

was empowered to fix rates after an examination of these returns. An act of 1892 legally enforced these rates as maxima, but when the railway companies raised their rates to the legal limit, a further act was passed, in 1893, prohibiting the increase of an existing rate, without sanction from the commission, before which they had to justify any such increase. The railways are at present controlled by a Railway Rates Tribunal, established in 1921, by a Railway Act which also compelled the amalgamation of all railways into five big groups. The tribunal has extensive powers of control over railway policy and rates.

STEAM SHIPPING.—At the end of the eighteenth century, shipping was little changed from the sixteenth century; sailing vessels of three hundred tons were still the average, although somewhat bigger ships were used for the trade with India and America. By the end of the nineteenth century, shipping had been revolutionised by the application of steam-power, and by the use of iron and steel to replace wood in shipbuilding.

One of the first steamers to be built was a wooden paddle-boat, the *Charlotte Dundas*, which appeared on the Clyde in 1802. A few years later an engineer named Fulton, constructed a successful paddle steamer in America. Very slow progress was made, however, owing to the unreliable nature of the machinery, and the excessive coal consumption. In 1821, steam packet boats were introduced for mail traffic on the Irish Sea and English Channel. Two years previously, an experimental boat, the *Savannah*, crossed the Atlantic in twenty-nine and a half days, mainly under sail, but with auxiliary steam-power, which was only used for a short spell. Incidentally, she was chased by government cutters for a whole day, the officers believing she was on fire. These attempts to cross the Atlantic by steamer a century ago, were just as adventurous as present-day attempts to do so by air.

Improvements were gradually introduced, and in 1838, the Atlantic was crossed by four steamers, the fastest time being fifteen days. In the following year, the Cunard Line began its career, with four paddle steamers, each over one thousand tons, to carry on a regular traffic with the New World. Wooden steamers could not stand the strain of heavy machinery, and

experiments were made with iron. Wilkinson had constructed an iron barge fifty years earlier, but the first iron steamer, the *Great Britain* was built by Brunel in 1843. This ship was really a wonderful achievement, and it did service for sixty years. In 1858, Brunel, who had visions of enormous steamers made of iron, built the *Great Eastern*, a colossal ship of nineteen thousand tons, but he was far in advance of his time. The ship was not a commercial success, although it did some valuable work as a cable layer in the Atlantic.

The iron steamer was still very imperfect, especially with regard to its machinery. So much coal and fresh water had to be carried for the boilers, that there was little room available for cargo, and sailing vessels had little to fear from them. In the 'sixties, however, a marked advance was made. The invention of the compound engine (the combined work of many engineers) resulted in great economy of coal, while a special distilling apparatus for water further economised space. The paddle was replaced by the single screw, and later by the twin screw, which increased the speed of the steamers, while the replacement of iron by steel, which was lighter and more durable, enabled much bigger ships to be constructed. All these improvements meant greater space for cargo, and reduced freight charges. The steamer became a serious competitor to the sailing vessel, and there began a freight war between the two. Sailing vessels survived for another generation, partly on account of their cheapness, but mainly because it involved an enormous sacrifice of capital to scrap them. They could not, in any case, be converted to steam-power. In 1870, the White Star Line was founded, and it was quickly followed by a number of other companies. Two distinct services developed, the liner service for passenger traffic, and the tramp steamer for cargo traffic. The liners have their specially defined routes between two termini, and sail according to time-table. They provide a regular and punctual service, on which business-men and others can rely, in much the same way as regular train services. The tramp, on the other hand, as its names suggests, has no such specified routes and times. It cruises about in search of cargo, and is often absent from home ports for years at a time, wending its way home by roundabout routes, carrying cargo to and from intermediate

places as the opportunity occurs. The development of cable and wireless communication has enabled shipping companies to direct the movements of their tramp services from head offices.

England, by virtue of the work of her marine engineers and inventors, possessed at first a monopoly of this form of transport, and an enormous carrying trade was built up, English ships becoming world carriers to the extent of over half the world's carrying trade by 1914.

RESULTS.—The steamer did for the sea what the railway did for land transport. Ocean distances were enormously reduced, and countries were linked much more closely together. Bulky goods could be sent from one part of the world to the other, distance being practically no obstacle, owing to the speed and cheapness of the new form of transport. Just as railways unified countries in the economic sense, so steamships unified the world. A journey of even a few miles was an adventure in the eighteenth century; world travelling to-day has become quite commonplace. The transport of a few hundred quarters of corn from Norfolk to London was both expensive and difficult in the former century; to-day, corn, in thousands of tons, is moved from the heart of America to England, with less difficulty and cost.

MEANS OF COMMUNICATION.—The means of communication now generally in use is the letter, and the development of the postal service is closely linked up with that of transport. The dispatching of a letter by personal messenger, obviously open only to the rich, is as old as written language, but the Post Office is of comparatively recent origin. It developed gradually from about the end of the seventeenth century. In 1683, London was the only town possessing a regular postal service. A few years later, a penny post operated within a ten-mile radius of the city. By the middle of the following century, a regular postal service ran at least three times a week, between the principal towns in the kingdom. The letter-bags were carried by post-boys mounted on horseback, and were delivered usually at a principal inn in the town. There was no machinery for delivery, the letters having to be called for. Often the ink had faded from them before they were claimed.

The postal service was not in general use owing to the excessive charges, especially for long distances. There was a regular scale of charges established by law, one postal stage costing twopence ; between one stage and 50 miles, threepence ; 50-80 miles, fourpence ; 80-150 miles, fivepence ; and over 150 miles, sixpence. There were complaints also that letters took a long time to reach their destination, even if they arrived at all. Highwaymen kept a sharp look-out for mails. For instance, in 1757, the Portsmouth mails were carried off by thieves within five miles of Charing Cross. Their fate in more remote districts was very insecure. It is stated by contemporaries that merchants used often to cut bank-notes and bills in halves, and send them by different posts as a foil for highwaymen.

The method of sending mails by mounted post-boys continued until 1784. In that year John Palmer, a theatre manager of Bristol, called attention to the fact that the stage coach leaving Bristol arrived in London before the post-boy. He offered to carry the mails by coach, and suggested the plan to the government. His suggestion was adopted and proved successful. Palmer was appointed Comptroller of the Post Office in 1785, and he set out to organise a national system of mail coaches. The work was let out on contract to private coaching companies, which were required to provide special fast coaches for the purpose and to work to a definite time-table. The speed of these coaches was increased from an average of six miles an hour to nine, and even more, where the roads were improved sufficiently to allow of this. By 1797, there were nearly four hundred towns receiving a mail every day. The Royal Mail, with its uniformed guard, carrying a trumpet and a blunderbuss (the former to announce arrivals and departures, and to warn toll-house keepers, the latter for the benefit of the highwaymen), became a familiar feature of the English roads. The system was a marked improvement on its predecessor, and did much to popularise the postal service. The mails were so punctual that people set their clocks by them as they passed by. During the nineteenth century the service was gradually elaborated to meet the growing demands made on it.

For special purposes, town criers, who still survive in some places, disseminated news and announcements in the towns.

The firing of beacons on some pre-arranged signal was another method for spreading quickly, important news, such as the death of a monarch.

During the eighteenth century a system of semaphore signalling was adopted to "flash" news from one part of the country to another, the signals being placed at regular intervals, and the messages being passed from one to the other. Newspapers were fairly common in the late eighteenth century, but the news was very old by the time the papers reached the remote country villages.

The speeding up of news transmission came with discoveries in electricity, a force known vaguely to the ancient Greeks, but not developed until the nineteenth century. Two men, Cooke and Wheatstone, patented an invention for signalling by an electric current in 1837, and in 1844, the G.W.R. adopted the method for a section of its railway from Paddington to Slough. The Electric Telegraph Company was formed in 1846, and within ten years this method of signalling news was fairly common, although it disturbed the peace of mind of many individuals who regarded it as the creation of Satan. The telegraph proved of immense benefit to the business community by speeding up business. In 1851, the first submarine telegraph was laid down between Dover and Calais, establishing, for the first time, direct communication between England and the mainland of Europe. This was followed by the stupendous task of laying a cable under the Atlantic Ocean, completed in 1866, after three attempts. Brunel's *Great Eastern* was the ship used for this work. Land telegraph and ocean cables linked up the world so effectively that messages travelled from one end of the world to the other in time reckoned by seconds.

A generation after the invention of the telegraph, Graham Bell, a Scotsman living in America, succeeded in transmitting sounds by the same method. The first telephoning took place in 1875. In 1879, the first English telephone company was formed, but the instruments were so imperfect that they were only used for very short distances, and more out of curiosity than anything else. With the improvement of the instruments, however, the telephone established itself as a valuable means of communication, although its use in England has not developed with the rapidity it has in

America, where there are five times as many telephones per head of population as in this country.

The development of wireless telegraphy and telephony belongs to the present age. Great advances have been made since the establishment of the Marconi Company in 1896, and improvements are continuing at the present time. The benefits of wireless for shipping needs no comment, while wireless in the home has already ceased to be a matter of wonder.

CHAPTER XI

COMMERCE, COMMERCIAL POLICY, AND COLONISATION

COMMERCIAL EXPANSION

INTERNAL TRADE.—The rapid growth of population, and the industrialisation of England during the nineteenth century, produced an even more rapid expansion of commerce than that of the previous century.

The concentration of people in the factory towns, and their separation from occupations connected with the land, made it necessary for them to buy all the goods they needed. When England was an agricultural country, the markets, with their weekly opportunities for buying and selling the ordinary needs of life, the great fairs for their luxury goods, cloth, iron and foreign wares, supplemented by the packman merchant, who called periodically at the inns with his variety of goods, and the pedlar with his gossip and lace, had sufficed for internal trade. But these methods for distributing goods could not cope with the needs of industrial Britain, especially when we remember that industries were established on, or near the coalfields, in districts hitherto thinly peopled in most cases. Factory and mine-owners had frequently to provide shops for their workers, or alternately to pay wages in goods rather than money, owing to the absence of regular shopping facilities. The need for some continuous form of trading, by which people could make their purchases just when they pleased, and in whatever quantities they desired, produced the modern retail shop and store, supplied with goods from the warehouses of wholesale dealers. That greatest of all English fairs, Stourbridge, was seriously rivalled by the dealers even in 1700. A century later it was no longer important as a trading centre, its work being performed by stores, which

undertook "to supply goods on the same terms as the fairs, all the year round." All over the country retail shops, specialising in particular goods, appeared in the towns, together with general stores in the smaller villages. Notices multiplied from the shopkeepers that in future "they did not intend to keep (*i.e.* to hire stalls at) the fairs." To supply these shops wholesale warehouses were established in the important towns. Rapidity and ease of transport were important for the efficient working of the system. Dealers maintained their own "fast barges" on the canals, and their carriers on the roads, but the growth of the system was greatly accelerated by the railways.

The markets shared the same fate as the fairs, although in most towns, the "market day" survives in name. Some of the big towns in the north began to provide permanent covered-in markets, early in the nineteenth century. Liverpool was one of the first to adopt this plan, a big market being erected there in 1822. It was followed by Manchester, where a market for butchers and greengrocers was built in 1824, in the London Road, followed by another in 1827, and a third in 1828.

Such markets became quite common in other towns as the century advanced. To-day a considerable proportion of the population is engaged in distributive trades alone, as retail and wholesale dealers, travellers, shop assistants, warehousemen, etc.

FOREIGN TRADE.—While many contemporaries disapproved strongly of the increase in the number of middlemen in home trade, on the ground that they added nothing to the wealth of the country, they were universal in their praise of the growth of foreign trade, which "multiplied the treasure in the country." It did not need much power of observation to appreciate the fact that foreign trade was increasing by leaps and bounds. The rapid growth of the ports, the activity of the shipbuilding yards, the multiplication of shipping and merchant firms, all pointed to this. The manufactured products of the factories provided bigger and bigger cargoes for outgoing vessels, which came back laden with foreign produce for England. A sixteenth-century advocate of mercantilism would have been delighted in the early nineteenth century, to see what a small part of the total exports was made up of raw materials. The complete list included only a little

coal, tin, copper, lead, some china clay, a small quantity of wool and a few thousand tons of pig-iron. Cotton piece goods and yarn, together with fabrics of wool, linen and silk, made up seventy-five per cent. of the total exports, the remainder, apart from the raw materials, being made up of cutlery, hardware, and manufactures of brass and copper. The exports found their way to all parts of the world, America being the biggest customer, closely followed by Prussia, the German States, the Low Countries, France, the Mediterranean countries and Russia, while small quantities went to Asia, Africa and Australia. It is impossible to compare accurately the values of exports for the different periods, but a rough idea of the increase may be obtained from them. The average annual exports between 1826 and 1830 were valued at £35,600,000. This figure rose to £50,000,000 ten years later, and by 1850 to over £61,000,000. The growth was continuous throughout the century.

By far the most important import was timber, most of which came from Scandinavia and North America. Imports of grain and flour came second, although these varied enormously from year to year, according to the condition of the home harvest. Of the rest, the most important were, sugar, raw cotton, flax, hemp, coffee, wine, tea, iron, wool and tobacco, which, together with timber and grain, formed about seventy-five per cent. of the total. The remainder was made up of light and valuable goods, including silks, glassware, fancy woollens, fruits, oils, spices and dyes. As the century proceeded, the imports of food and raw materials increased, while the exports of manufactured goods to pay for them also increased. By 1913, the total value of our foreign trade was well over £1,000,000,000, including both exports and imports.

TRADE AND THE FRENCH WARS

THE CONTINENTAL SYSTEM.—When England was engaged on the long and costly struggle with Napoleon, the latter realised that England's chief strength lay in her manufactures and trade. From the first he was fully aware that his principal enemy was "the nation of shopkeepers," and that his chief hope of success was to undermine her economic prosperity. He failed to cripple

England's sea power at Trafalgar in 1805, but in the following year, his armies were victorious in Europe, and made him master of practically the whole continent. Napoleon then launched his great attack on English trade. By the famous Berlin Decrees of 1806, followed by the Milan Decrees, he forbade all direct trade between England and Europe, an order which his military control over Europe made possible. As the European trade formed a considerable proportion of her total trade, this was a very serious thing for England. Fortunately for her, however, Napoleon found it extremely difficult to enforce his "Continental System." Organised smuggling from bases like the Channel Islands, Malta and Cyprus, supported by the navy, succeeded in forcing English goods into Europe by roundabout routes. Such trade was, of course, very risky and expensive, but it was made possible by cheap factory production. The forging of ships' papers and the French Consul's stamps, also became an organised business in London, and owing to these two methods English trade did not materially suffer.

But in 1810, Napoleon tightened up the whole system, and ordered that all English goods found on the Continent should be confiscated and burnt. Trade became so difficult under these conditions, that goods became unsaleable in England, while they were unprocureable in Europe. English business houses passed through a very difficult time. Bankruptcies of strong firms became common, and extensive unemployment in England added to the miseries of the period. So dependent had the country become on foreign trade, that its interruption produced serious economic dislocation and hardship. Just when the strain was becoming intolerable, Russia opened the Baltic ports to a convoy of English cargo vessels in 1812, and relieved the situation. In order to close this inlet, Napoleon undertook the famous march to Moscow. The disaster which overtook his armies on this occasion contributed to his downfall, and brought to an end the "Continental System."

English trade took a long time to recover, however, and the effects of this, coinciding as they did, with economic dislocation produced by the spread of machinery, made the period following the French Wars one of the most serious in the history of this country.

COMMERCIAL POLICY.—An important change occurred in commercial policy during the nineteenth century. Economists and philosophers were preaching the doctrine of individual liberty, and urging the liberation of economic activities from the control of the state. The separation of the United States of America from the British Empire, without apparent detriment to the trade, seemed to be a conclusive argument against the "Old Colonial System." The failure to carry out many of the mercantilist measures in practice, tended to produce a growing disregard and contempt of government. The French Revolution, and the spread of the ideas of "liberty, equality, and fraternity," had undoubtedly some effect on the political practice of the period. Finally the economic progress of the eighteenth century was not the work of governments, but of individual merchants and manufacturers, and it seemed to contemporaries that the individual was himself the best judge of the line of action to pursue to bring most profit to himself and to the state.

The various mercantilist measures were gradually abandoned in favour of a more liberal policy towards trade and industry. Commerce was freed from the restrictions and regulations which had so long sought to control it. As already stated, (in Chapter II) the chartered companies lost their monopolies, and their trade was thrown open on equal terms to all merchants who cared to undertake it. This was a striking victory for the interloper, who had been steadily gaining ground from the beginning of the eighteenth century. By 1833, all spheres of trade except that of the Hudson Bay, which was not freed until 1867, were opened to all.

THE FREE TRADE MOVEMENT.—Side by side with the movement abolishing the privileged companies, opposition to all trade restrictions grew steadily. In 1820, a petition was drawn up by an influential body of merchants for complete freedom of trade. The mercantilist doctrine that the object of trade was to get treasure had been responsible for many of the commercial regulations, such as the prohibition of trade with the other great bullion-seeking nation, France. By the end of the eighteenth century, it was realised that bullion could look after itself as long as the country's economic system was healthy. Bullion was not

wealth but merely the means to procure goods, which were the real object of trade.

Still it was deemed desirable and necessary to stimulate exports and cut down imports as much as possible. Industries were protected from foreign competition in the home market by an elaborate system of tariffs; agriculture was protected to the point of the prohibition of corn imports by the Corn Law of 1815, except when the prices in the home market indicated an acute food shortage; exports of raw material, machinery, and even the emigration to foreign countries of skilled craftsmen, were subject to rigid control amounting to prohibition; the carrying trade was confined to English ships, and the colonial trade was the preserve of the mother country.

With the development of factory industry with its vastly cheaper cost of production, English manufacturers ceased to fear the competition of foreigners on the home market, and they joined forces with the merchants in pressing for greater freedom of trade. The cotton manufacturers, in particular, went all out for free trade. They imported all their raw material and exported most of the finished products, so they had nothing to gain from protection. Manchester, the cotton metropolis, became the centre of the free trade agitation, and the Manchester School, as it is still called, became synonymous with free trade. The interests of manufacturers were now concerned with expanding foreign trade rather than the preservation of the home market, in which they were in any case able to undersell possible rivals. Under such conditions they began to argue that tariffs hindered, rather than fostered the development of industry. They objected, in particular, to tariffs on imported raw materials and corn, both of which, they argued, raised costs of production, which handicapped their selling power abroad. The Anti-Corn Law League was primarily a league of industrialists. Their slogan "cheaper food for the workers" was interpreted, with some justice, by their opponents as "lower wages for industry," since one of their main arguments was that their rival continental manufacturers had a cheaper supply of labour available, owing to the lower prices of corn.

Extreme advocates of a particular cause are prone to exaggerate. In spite of the manufacturers' arguments that England was

losing in the fight for markets, English trade was expanding very rapidly. But the ability of European and American markets to take English manufactured goods depended on the extent of their own exports of corn, fruit, wines, raw materials and other products, for which England was one of their best markets. When approached to allow greater freedom for the import of English manufactured goods, they obviously demanded reciprocal concessions from England for their goods. As one German minister put it: "Admit our corn and we will admit your goods."

The movement towards a more liberal commercial policy had actually started before the outbreak of the French Wars. Pitt had put an end to the prohibition of trade with France in 1786, by the conclusion of the Eden Treaty with that country. It is known that he was contemplating treaties of a similar nature with other countries when the outbreak of war changed the whole situation. The policy was not taken up again until ten years after the conclusion of war. In 1825, William Huskisson, though he was a firm supporter of the principle of protection, realised that the tariff system of the country needed simplification and modification. There were over a thousand tariff acts on the statute book, a collection of centuries of legislation. The whole thing was so complicated that no one, including the custom officials, understood it. There were instances even of the same commodities being taxed at different rates under different laws, and it was often a matter of discretion which tariff to apply. Huskisson replaced the whole of these by one comprehensive measure, which limited tariffs on manufactured goods to an average of thirty per cent., and those on raw materials to twenty per cent. He went further than this. He sympathised with the policy begun by Pitt forty years earlier, and was prepared to conclude treaties of reciprocity (*i.e.* treaties containing mutual concessions) with foreign countries. A number of these were concluded with some of the German States and with Italy. He extended the principle to the colonial trade, and important relaxations were made in the Navigation Acts. England granted trading concessions for her colonies, on condition of similar concessions by foreign powers for their colonial trade. The "Old Colonial System" was also relaxed in the case of the important

trade between the United States of America and the British possessions in the West Indies and Canada. By the end of the 'twenties, serious breaches had been made in the Mercantile System.

SIR ROBERT PEELE.—The statesman who really took England over to free trade was Sir Robert Peel. Called into office in 1841, when the finances of the country were in a hopeless condition, Peel decided to carry out drastic reforms. At first, he supported protection, and was only converted to free trade principles later. He realised, however, that heavy taxation on imported goods meant reduced consumption of those goods, and that it provided a very strong temptation to the smuggler. Both reduced consumption and smuggling robbed the state of revenue, and consequently he advocated moderate duties. He appointed Gladstone to the Board of Trade, and directed him to revise the tariffs. Prohibitive tariffs were to be abolished, those on manufactured goods to be reduced to twenty per cent., and those on raw materials to five per cent. *ad valorem*, the amount of tax varying with the cost of the articles.

The budget of 1842 produced a surplus revenue, in spite of the reductions, proving Peel's view that taxation beyond a certain point diminished the revenue. The surplus was used to effect further reductions, while the import tax on wool was totally repealed. In 1845 taxes on a large number of imported goods were repealed, and others were reduced to moderate levels. By this time Peel was a convert to free trade, and openly advocated the maxim of "buying in the cheapest market and selling in the dearest." In 1846, he carried through parliament the most sweeping free trade measure yet contemplated, the repeal of the corn laws, which abolished the age-long principle of protection for agriculture.

Peel fell from office the day following the passing of this measure, and was succeeded by the Radical leader, Lord John Russell.

THE NAVIGATION ACTS.—Although Huskisson had allowed considerable relaxations in the Navigation Acts, the policy of reserving English trade mainly for English shipping still remained.

In 1849, these acts were repealed, and in future goods might be imported into England in the ships of any nation. Four years later the coasting trade was thrown open, despite the opposition of shipowners, who feared the competition of lower freights by foreign vessels. The legal obligation to man English ships with English crews was also swept aside.

The free trade reforms were completed by Mr. Gladstone, between 1853 and 1870. During this period all protective tariffs were swept away, including even the shilling registration duty on the import of grain. Any tax that remained on imports was solely for the purposes of revenue, not protection, and if a similar article to the one taxed was produced in England, a countervailing duty was imposed on it, to balance the tariff. In 1860, Richard Cobden, one of the arch apostles of free trade, the chief figure in the Anti-Corn Law League, was sent by the government as an official representative to France. After some months of negotiation with the Emperor Louis Napoleon, he was successful in securing a free trade treaty with that country. This was the forerunner of a number of similar treaties concluded with most of the important European countries within the next ten years. Subsequently these treaties were not renewed, and Europe went back to protection, but in 1914, England still adhered to free trade principles.

COLONIAL POLICY.—The steady growth of the colonies in population and economic prosperity during the seventeenth and eighteenth centuries has been described in a previous chapter (Chapter II). It produced in the colonies a strong feeling of national consciousness, and a desire to carve out their own destiny without interference from the mother country. This did not apply so much to the southern states of America and the islands of the West Indies, as the "Old Colonial System" did not materially affect them. They gained at least as much as they lost by the preferential treatment for their products in the English market. But this compensation was not enjoyed by the northern colonies, where the feeling against England became more and more bitter. It will be recollected that they could not establish industries that competed with England. Legally, they could not manufacture woollen cloth nor iron, except for their own

domestic use. Though they could ship their corn, wool, fish and timber to any part, their import and export trade in the "enumerated commodities" could only take place through England. Small wonder is it that they felt the restrictions were hampering their development, although, in practice, it was impossible to carry out the letter of the law. Nevertheless, considerable ill feeling existed, and the open way in which illicit trade was done bred contempt of the whole system. The revolt of the American colonies was really due to this deep-seated cause, although the occasion for it was the attempt on the part of England to make the colonies contribute towards the revenue of the mother country, to assist in meeting the costs of their defence.

THE END OF THE COLONIAL SYSTEM.—The year 1783 marks not only the granting of independence to the United States of America, but the beginning of the collapse of the "Old Colonial System." For the next hundred years the attitude became one of *laissez-faire* towards the colonies. In England there were prominent statesmen who questioned the wisdom of retaining the colonies at all. They were costly to defend, and when they had developed sufficiently to become important markets, they struck out for independence, or, as one writer expressed it, "like apples, when ripe, they fall off the tree." Besides, even if they became independent, it did not follow, from the experience of the American trade, that the volume of commerce would decline. Thus, while the Navigation Acts remained on the statute book, the clauses governing the colonial trade were more laxly administered than ever. Immediate complications were introduced by the establishment of the United States, which were now a foreign power within the meaning of the acts. However, the trade between the United States and the British West Indies was allowed to go on, the West Indies being expressly permitted to export their sugar direct to America. The reforms of Huskisson, already mentioned, diminished still further the legal restrictions on this trade. With the repeal of the Navigation Acts in 1849, the "Old Colonial System" disappeared altogether, and the colonies could henceforward export and import their goods to and from any market.

At the same time, it must be remembered that colonial

products enjoyed preferential treatment under the English tariff system. Their sugar and tobacco enjoyed a monopoly, while the corn, timber and iron of the northern colonies came in at lower rates of duty than those applying to foreign countries. The freight charges, however, bore heavily on the bulky cargoes, corn and timber, and neutralised the tariff preferences. Although England imported some corn and timber from Canada, the amounts did not compare with those imported from sources nearer at hand, particularly Scandinavia, Poland and Germany. Yet the trade was very valuable to Canada.

The free trade reforms of Peel and Gladstone, involving as they did the abolition of all protective tariffs, swept away these preferences, and placed the colonial trade on an equal footing with that of foreign countries. This created much discontent in the colonies, and for a time there was every possibility of Canada seceding from the Empire and throwing in her lot with the United States. The emancipation of the slaves in the British dominions roused the opposition of the West Indian sugar and cotton planters, who claimed that without this cheap supply of labour they would not be able to compete against the slave-cultivated products of America and the Dutch West Indies. The planters were paid £20,000,000 compensation by the British Government, but this did not reconcile them.

Partly to compensate them for the loss of tariff preference, and partly owing to the general *laissez-faire* doctrines of the government, a more liberal policy was adopted towards the colonies. They were allowed to enter into commercial agreements with any foreign country, and to trade directly with any nation they pleased. In 1867, Canada was made a self-governing dominion, with complete control over her domestic affairs. This policy was extended to the Commonwealth of Australia and to New Zealand in 1900, and to the Union of South Africa in 1906. The result has been to give the self-governing dominions the status of independent nations, bound only by the loosest of ties to the mother country. They decide their own policy, pass and administer their own laws, raise their own revenue, and even decide their own tariff systems independently of England. It is only in questions that might lead to international complications and disputes that the British Government, in practice, claims

supremacy, since Britain would be held responsible internationally for such measures.

THE NEW COLONIAL POLICY.—While these changes were taking place, the commerce of the world was revolutionised by mechanical transport. The nature of distant trade had been confined, of necessity, to commodities which took up little room in the sailing ships, and which were sufficiently valuable to bear the expense of long and slow voyages. These conditions were fulfilled by the Eastern products and by the sugar and tobacco of the West. With mechanical transport on land and sea, the movement of the cheaper and bulkier goods became practicable, irrespective of distance. Hitherto, chief value had been attached to island and coastline colonies owing to the transport difficulties in the way of penetrating the interior. Railways removed these difficulties and steam and ocean transport removed the obstacles of distance. Thus a new value was given to continental colonies. Among the European nations rivalry became more intense in a race for colonies, and Britain became envied for her vast possessions in India, Australia, Africa and America. The hitherto unexplored and unclaimed parts of Africa were partitioned off among the chief European Powers.

Beginning about 1880, the *laissez-faire* policy towards the colonies was abandoned by England in favour of a policy of imperial development. In 1887, the first Colonial Conference, representative of all parts of the Empire, met to discuss methods by which greater imperial unity could be attained, and more intimate relationships could be established between the mother country and the colonies. The question of commercial links received special attention. With the transport facilities now available, the colonies hoped to capture more of the English market for the vast quantities of food and raw materials which she was now importing, while as the colonies themselves developed, they would become more and more important as markets for English manufactured goods. The conference was the forerunner of similar ones, and they are now held periodically.

On the recommendation of pre-war imperial conferences, schemes of empire settlement and assisted emigration were adopted by England. Facilities were provided to enable the

colonies to borrow capital for their development at "gilt-edged rates," by placing their securities on the "Trustee Security List." This was a great advantage to them, especially when we consider that London was the chief money-market of the world. Research into the problem of tropical plant diseases was financed by the government, and some very valuable results have already been obtained, particularly with a disease which caused enormous damage to the sugar cane.

Mr Joseph Chamberlain, who was a keen advocate of imperial economic unity, tried to go further than this. He proposed the establishment of an imperial customs union aiming at free trade, or at least preferential tariffs, within the Empire, and protection against all outside. This would have involved the abandonment of free trade. The attempt failed, Mr Chamberlain being decisively defeated at the famous general election of 1906, when "*Tariff Reform versus Free Trade*" was the great issue before the electorate.

In the post-war period, imperial policy again became prominent. The war had stimulated empire sentiment and strengthened the movement towards closer economic union. On the recommendation of the Imperial Conference of 1919, preferences were granted to the Dominions on wine and tobacco, together with others on manufactured goods subject to safeguarding duties. The extension of this policy was advocated by the representatives of the Dominions at subsequent conferences. When Britain returned to a moderate form of protection in 1931, the adoption of this policy on a bigger scale became practicable.

The Ottawa Conference of 1932 advanced considerably in this direction, by extending the list of preferences between Britain and the Dominions. Various methods were also adopted to stimulate the importation of primary products from empire sources, such as, the granting of a quota of the British market to empire producers. Another method to assist empire trade was the setting up of the Empire Marketing Board, which received grants from the Exchequer. This board gave advice on the marketing and advertising of empire products in this country, and collected information which might prove useful to empire producers. It was abolished in 1933, but some of its functions were taken over by various government departments.

CHAPTER XII

BANKING AND FINANCE

THE BANKING SYSTEM.—By the end of the eighteenth century, there existed in England an extensive system of banking, which embraced all the more important parts of the country. London was particularly favoured in this respect, and already was considered as one of the chief money market centres in Europe. In addition to the Bank of England, there were over sixty private banks in the city. It was natural, therefore, that a great part of the financial business of the whole country should be concentrated there. Even the country banks kept their reserves in London, a fact which linked them up with the city money market. The growth of private banking in the provinces had been very rapid since the industrialisation of the coalfield areas, and altogether, there were close on eight hundred private banks in existence. Most of them had the right of issuing notes, which, although very convenient in districts where trade and investment were rapidly expanding, was a source of danger unless wisely used. Many of the bankers lacked proper experience. Some were unbusinesslike in their methods, and others were not as honest as they might be. The result was that the foundations of the private banks, excepting those well established, were not very secure, and the least shock was sufficient to bring about their downfall in scores.

BANKING DURING THE FRENCH WARS.—The outbreak of a war always deranges the financial system of a country, and imposes a great strain on the banks. The French Wars were no exception to the rule. In 1793, conditions in the money market were rendered unstable by the outbreak of war. The government began to borrow money to finance the war; the value of existing government securities fell; business people and manufacturers

found it more difficult to secure ready money ; the normal course of trade and industry was interrupted ; timid people began to hoard their money and to withdraw their deposits from the banks. In consequence, the banks were involved in immediate difficulties. Those which were not well managed failed to survive, and scores of bankruptcies occurred among them, involving severe losses among their depositors and among those who held their notes.

In 1797, a second crisis occurred in the banking world. The wars were lasting longer, and costing more than had been anticipated, while the government demand for loans was draining the country's savings. More corn imports than usual had been made necessary by poor harvests, that of 1796 being particularly short. Food prices soared upwards, increasing the strain on the currency, while much of the gold in the country had to be sent abroad to pay for corn. The banks, including the Bank of England, found their reserve considerably depleted, while demands for accommodation showed no signs of falling off. The news, which spread rapidly throughout the country, that the French had landed on the Welsh coast, created momentary panic. Banks all over the country were subjected to "runs" by people who wished to withdraw their deposits. The provincial banks were compelled to call on their reserves in London, just when conditions there were equally strained. The Bank of England's reserve was reduced to just over a million pounds, an amount which was totally inadequate to meet the demands, and a real danger existed of the Bank "closing its doors." This would have meant a complete financial collapse.

THE BANK RESTRICTION ACT.—The directors of the Bank of England were justified in appealing to the government, since the Bank's position was in a great measure due to large advances made to the Treasury in the preceding four years. If it ceased payment, the whole financial structure of the country would have been involved in disaster. At the same time, the Bank was perfectly solvent, but it could not possibly realise on its securities and investments quickly enough to strengthen its reserve. The position was a very critical one, and scores of private banks failed to meet their liabilities, involving a further crop of bankruptcies.

To meet the situation, the government passed the Bank

Restriction Act, authorising the Bank of England to suspend cash payments on its notes, which enabled it to meet the demands made on it by issuing banknotes, without the fear of being called upon to change these for gold on demand. The act was to remain in force until six months after the conclusion of war.

The reputation of the Bank of England was such, that the public accepted its notes with every confidence that they would maintain their value. In effect, this measure therefore established an inconvertible paper currency in the country, notes replacing the normal gold and silver coins. The Bank could now meet the calls made upon it in notes, which it could issue against its securities, without the need of maintaining a bullion cover for them. The situation was immediately eased and a financial disaster was avoided.

THE BULLION COMMITTEE.—The country soon adapted itself to the use of paper money, but the possibility of over-issuing notes, in the absence of any check by conversion to cash, was increased. For the first few years, the note issue was very carefully regulated by the Bank, and the notes maintained the same value as their equivalent in gold. But between 1808 and 1815, some inflation took place, and prominent writers of the period, including the great economist David Ricardo, drew public attention to this. In 1809, the government appointed a special Committee to investigate the matter. The following year the committee presented its famous report, known as "The Report of the Bullion Committee," after a careful and searching investigation of the monetary problems of the age. They pointed out that the notes of the bank could not buy as much as gold coins of the same face value; that the price of gold had risen; and that the foreign exchanges had moved against England. The only explanation for these facts, they argued, was that an excess of notes had been issued, which reduced their value. As a remedy, they recommended that cash payments should immediately be restored, which meant that the Bank should be required to change its notes for gold on demand. The government, however, did not accept the recommendation, and the Bank Restriction Act remained in force. The Committee were probably right in their judgment, although the Bank naturally denied the charge. But

in justice to the government, the immediate resumption of cash payments would have been impracticable in 1810, as there was not sufficient gold in the country to effect the change, the financial drain of the war having caused a large export of gold to pay for corn, and for the needs of the armies fighting in Europe. Further, it would take time to acquire sufficient gold for the purpose.

THE RESUMPTION OF CASH PAYMENTS.—When the war ended, the return to cash payments should have taken place automatically after six months, according to the terms of the Bank Restriction Act. In view of this, the Gold Standard Act was passed in 1816, establishing the present currency system, based on gold as the standard. Hitherto both gold and silver coins had been standard, circulating in the ratio of 15·5 of silver to 1 of gold, the so-called bi-metallic standard. It was found difficult in practice to maintain this ratio, owing to changes in the supply of silver and gold, which tended to alter their relative values. The Gold Standard Act abolished bi-metallism in this country; the guinea was replaced by the sovereign; silver coins were to become token money, legal tender to forty shillings only, and copper coins to twelve pence. The Bank made no attempt to return to cash payments, although the note issue was considerably reduced. This deflation of the currency was blamed at the time for the falling prices, and the depression in industry and agriculture. Deflation was one cause, but prices were bound to fall rapidly with the return to peace conditions, and with good harvests. Industrial and commercial depression usually follows a period of war.

In 1819, another committee was appointed to investigate the affairs of the Bank of England. Its report was similar to that of the earlier Bullion Committee. An act was passed, on the recommendation of the committee, requiring the bank to resume cash payments on its notes by 1823. Actually this was done two years earlier.

BANKING REFORM.—The years following the French Wars were very critical in English Economic History. Trade took a long time to recover; agriculture passed through a time of de-

pression and low prices ; and industry was considerably dislocated by the change from war to peace. Banks were involved in the difficulties of the period, particularly those which had advanced money to farmers for improvements. Such advances were based on the high war prices and appreciated value of land, but on the return to peace, land values dropped rapidly. Between 1815 and 1830 more than two hundred private banks failed. Repeated bankruptcies called attention to the urgent need for the reform of the banking system. The first step was taken in 1826, when the monopoly of the Bank of England to issue notes as a joint stock bank, was limited to within a radius of sixty-five miles from London. Henceforward it was legal for joint stock banks outside that area to issue notes. One effect of this measure was to rouse the Bank of England to open branches in the country. Hitherto it had confined its operations almost entirely to London. Branches were opened in Manchester, Gloucester, and Swansea in 1826, and, within a few years, they spread to most of the important provincial towns, including Birmingham, Liverpool, Bristol, Hull and Norwich. This made for greater security of banking throughout the country.

JOINT STOCK DEPOSIT BANKS.—In the meantime, joint stock banks put forward a claim to open anywhere in the country, even in London itself, as long as they did not issue notes. The Bank of England strongly contested the claim, but it was rightly pointed out that its monopoly only extended to the issue of notes. In 1833 the government recognised the claim, and expressly permitted the establishment of non-note-issuing joint stock banks in London. The first to open its doors was the London and Westminster in 1834. Others followed within a few years. These banks were purely deposit banks, enabling their customers to use cheques drawn against accounts kept by them at the banks, and hence they were called the joint stock deposit banks. As the century advanced, cheques became more and more popular in business, and the deposit banks rapidly increased in importance.

THE BANK CHARTER ACT.—Further failures among banks in 1837, and again between 1839 and 1842, brought the question of reform into prominence once more. Some people advocated

that banknotes should be fully covered by gold, to ensure their perfect safety, while others argued that as long as banks maintained a certain reserve to their notes there was no danger. In 1844, Sir Robert Peel introduced the Bank Charter Act, which was a compromise between these views. No more banks were to acquire the right of issuing notes; the existing note-issuing banks, while retaining that right, were limited to a maximum issue; if a note-issuing bank stopped payment, became a joint stock bank, or amalgamated with another, its right to issue notes was to lapse automatically. (It was hoped that this clause would speedily wipe out such issues.) The remaining important clauses dealt with the Bank of England. Its uncovered, or fiduciary note issue, was limited to £14,000,000, against which government securities were to be held; it was empowered to acquire, in addition to this, two-thirds of the lapsed issues of other note-issuing banks; the note-issue department was to be separated from the banking department, and weekly returns (showing its financial position) were to be published in the press.

BANKING DEVELOPMENT.—The growth of banking after 1844 was very rapid, a growth mainly in the direction of joint stock deposit banking. Cheques proved to be such a convenient method of carrying out business transactions that the biggest proportion of modern business is to-day done by cheque. "The Big Five" joint stock banks have most of this business in their hands. In order further to economise cash, the clearing-house system has developed alongside the cheque. Cheques are drawn against accounts kept at the banks, and a person who is paid by cheque usually pays it into his own account, and the debtor's account becomes liable to this amount. The creditor bank thus has to collect the payment from the debtor's bank. In order to obviate the necessity of the transfer of cash between the two banks, there exists the very elaborate organisation known as the Bankers' Clearing House, an institution which began its career in 1775. Each bank has representatives at the clearing house, to which all cheques are sent daily. They are sorted and cheques for and against each bank are cancelled out. Any differences that remain are settled by the debtor bank issuing a cheque to the creditor bank drawn against an account kept at the Bank of England.

By this method thousands of millions of pounds' worth of business transactions are effected every year without the use of cash. The cheque has therefore become an indispensable part of the commercial life of the country, and owing to it, credit has become much more important than cash for commerce.

The position of the Bank of England is one of particular importance in view of the banking development of the last century. It has become the central institution of the money market, and the foundation of the entire credit system of the country. The other banks keep the greater part of their cash reserves at the Bank of England, which must therefore always be prepared to meet any sudden calls made on it by the banking community. The government keeps its accounts at the Bank, which manages the National Debt. It has also become the sole bank of issue in the country, every other bank having forfeited the right of issuing notes under the Bank Charter Act. The last bank to lose this privilege was Fox, Fowler & Co., which was absorbed by Lloyds Bank in 1921. In consequence of its right to acquire two-thirds of the lapsed issues of other banks, the Bank of England's fiduciary issue has increased from £14,000,000, the original amount, to £19,750,000, its maximum under the Act of 1844. In 1928, however, the currency and bank notes were amalgamated. The government handed over the entire responsibility for the currency of the country to the Bank of England, whose fiduciary issue was raised to £260 000,000, a figure which may only be altered with the consent of the government.¹

PUBLIC FINANCE.—Important changes occurred in the system of taxation during the nineteenth century. During the Middle Ages the king, as the chief landowner in the country, had been expected "to live on his own"; that is, the income from crown estates was the chief source of revenue for the government of the country. Taxation was only levied when parliament granted subsidies for special purposes, like wars. During the sixteenth century, the activity of the government increased considerably, and the income from crown estates proved insufficient to meet expenses. The Tudors, in order to make ends meet, adopted a number of expedients, including the sale of crown lands, which

¹ See page 265.

only increased future difficulties. The Stuarts were faced with a similar problem, and Charles I attempted to raise money by methods which brought him into conflict with parliament, ending in the Civil War. But the war did not solve the financial difficulties. Expenditure was greater than revenue, and taxation became necessary to make up the difference. When wars broke out, money had to be raised by borrowing. The Bank of England owed its foundation to a loan made to the government when money was urgently needed, and that loan formed the beginning of the permanent National Debt. The frequent wars of the eighteenth century necessitated borrowing on such a scale, that the debt assumed enormous proportions, reaching £245,000,000 by 1793. At the end of the French wars, it had increased to beyond £800,000,000. The interest on this debt had to be paid annually, and some method had to be devised for repaying the capital sum. At the same time, the work of the government continued to increase, involving growing expenditure. The annual revenue had thus to cover the current needs of government, the interest charges on the debt, and the gradual repayment of the debt. Charles II had been given an income of £1,200,000 in 1660. This was increased to about £2,500,000 by 1694, and by 1793 to over £18,000,000. After the French wars, the annual expenditure was well over £50,000,000, more than half of which was absorbed by debt charges. It remained near this figure until the middle of the century, when it again increased steadily, reaching £70,000,000 by 1865, £100,000,000 by 1896, and nearly £200,000,000 by 1914.

THE NATIONAL DEBT.—The creation of the national debt in 1694, and its subsequent increase, provided a serious financial problem for the government. The interest charges had, of course, to be met annually, and taxation had to be levied to cover these. Various chancellors had visions of wiping out the debt itself, by establishing sinking funds to pay it off gradually, and so to reduce the interest charges. Sir Robert Walpole instituted the first fund, but it proved to be a complete failure, because the debt increased faster than the sinking fund. A sinking fund can only be successful if the expenditure is less than the revenue, leaving a surplus which can be devoted to that purpose.

William Pitt set up a sinking fund in 1786, by which £1,000,000 a year was to be set aside from the annual revenue, until a capital sum was secured, which, when invested, would yield £3,000,000 a year. This annual income, plus the original million, was to be used to wipe out the debt at the rate of £4,000,000 a year, a process which would occupy about seventy to eighty years. This was a very ingenious scheme, and had the country enjoyed a long era of peace and normal expenditure, there is no reason to doubt that it would have succeeded in its object. But once again, the minister's calculations were upset by the outbreak of war, which not only wiped out the budget surplus, but necessitated fresh borrowing on a large scale. The fund was kept on, but the money added to it annually had to be borrowed. There was no real gain in this; in fact, there was a loss, since money can only be borrowed at high rates during a time of war. After the war, attempts to balance the budget failed, and Pitt's Sinking Fund was finally abolished in 1829. In its place the old fund was restored, by which, actual surpluses only were devoted to reducing the debt.

Following a period of war, the rate of interest usually falls steadily, and it becomes possible for the government to borrow money at cheaper rates. This enables chancellors to effect the conversion of parts of the debt, either by paying off a part at par, or by offering holders of the debt new stock at lower rates. This reduces the annual burden of the debt. The nineteenth century was a period almost free from serious wars for England, and many "conversions" were carried out. In 1822, about £250,000,000 of five per cent. stock was converted to new stock at four per cent. This was subsequently reduced in 1830 to three and a half per cent., in 1854 to three per cent., and finally to two and a half per cent. in 1903. These effected appreciable savings for the exchequer.

The capital sum was also steadily reduced by repayments from sinking funds, particularly after Peel's reforms in 1842. In 1875, Sir Stafford Northcote, the Chancellor of the Exchequer at that time, introduced a new method which consisted of converting part of the debt to terminable annuities. Briefly stated, the scheme was to raise money by the sale of annuities to the public, and to use the money for buying up government debt.

(When a person buys an annuity, he pays a lump sum in return for an annual payment which ceases at death or at the end of a specified period, according to the terms of the bargain.) By means of this method an appreciable part of the debt was paid off by 1914, when it stood at just over £700,000,000. The Great War (1914-1918) increased the national debt to more than ten times this figure, and annual interest charges at present absorb nearly one half of the total revenue of the country. There is at present in operation a sinking fund of £50,000,000 a year for the purposes of debt redemption.

CHANGES IN TAXATION.—When taxation became necessary as a regular source of income for the government, the system of national finance had to be modified. The method at first adopted was to grant to the various departments of state the proceeds of particular taxes, and each department was responsible for keeping the accounts of revenue and expenditure. This proved very cumbersome and confusing in practice, as each department was financially kept independent of the others. William Pitt (the Younger) abolished this method in 1786, and substituted for it the consolidated fund. By this method all tax payments were to go into a common pool controlled by the Treasury, and the departments received grants from this pool subject to the approval of the Chancellor. This obviated the necessity for keeping separate accounts on the revenue side and thus simplified the system of national finance. It is still the method in operation and it gives the Treasury effective control over the finances of the country. Pitt also believed in the diffusion of taxes, or spreading the taxes as evenly as possible over a large number of articles, so that they did not press too heavily on any one point. This, of course, complicated the system of taxation, and added to the costs of collection. It was difficult in those days to find any article which was not taxed, a fact which contributed much to the discontent of the period.

THE INCOME TAX.—The outbreak of the French Wars in 1793 caused an upward bound in the nation's expenditure. Pitt did not immediately attempt to increase the revenue by extra taxation, as he anticipated a short war. But it was evident by 1797, that

there was a long and costly struggle ahead, and the existing taxation was completely inadequate. Indirect taxes were raised, but the yields proved disappointing. Pitt then proposed a far-reaching innovation in the taxation system, a tax on incomes. This roused violent opposition "as an undue interference with natural liberty," but the tax was carried, on the understanding that it should serve only as a temporary war measure, to be repealed immediately on the termination of the war. Incomes above £200 a year were taxed ten per cent., those below £60 were exempt, while the tax was graded for incomes between £60 and £200. The yield of this tax was very encouraging, but because it was based on income as declared by the people, a good deal of evasion occurred. When the war ended in 1802, the tax automatically lapsed, but was immediately re-imposed on the outbreak of the Napoleonic Wars within a few months of the Treaty of Amiens. This time, it was levied at the source, that is, where possible, it was deducted before the people received their incomes. Although the rate of the tax was only half the old, the yield proved to be quite as much, proving that many had evaded the tax previously. Subsequently, the rate was raised to the old figure, and in 1815, the yield of the tax was over £14,000,000, nearly one-third of the entire revenue.

However, when it was proposed to retain the income tax after the war was over, a violent storm of opposition ensued in parliament. It was attacked as a "gross interference with the liberty of the people," and the government weakly surrendered. The loss of this profitable tax threw the national finances into a hopeless condition, and although most of the existing indirect taxes were raised, and new ones imposed, it was found almost impossible to balance the budget.

In 1842, the state of the finances was such that a complete reform of the existing system was imperative. Sir Robert Peel was summoned into office as Prime Minister, and he immediately undertook the work of financial reform. He realised that indirect taxes had been raised to such a degree that their yield suffered from reduced consumption of the taxed commodities, and from extensive smuggling. He proposed a drastic reduction of the existing taxes, but to safeguard the revenue, he asked parliament to sanction a tax on incomes. The old arguments were used again,

but Peel succeeded in getting it passed for a period of three years. He justified the tax on the ground that the wealthiest people in the country were, at that time, the merchants and manufacturers, not the landowners and farmers, and a tax on incomes was the best way to even out the burden of taxation. The results surpassed even Peel's anticipation, and the budget of 1843 showed a surplus for the first time for many years. Peel used this surplus to reduce indirect taxes still further, with equally good results. In 1845, he secured the income tax for a further period of three years. He was overthrown in 1846, but his work on financial reform was continued by statesmen like Mr Gladstone, Mr Disraeli and Sir Stafford Northcote.

DIRECT TAXATION.—Although parliament regarded the income tax as temporary, and many statesmen promised its ultimate withdrawal, it was renewed from time to time, until it became, as Mr Gladstone described it, "the sheet anchor of our system of taxation." Mr Disraeli was a bitter opponent of the tax while he was in opposition, but when he came into power in 1871, he met the demand for its repeal by the well-known remark, "I should like to be the man who could repeal the tax." Its retention as a permanent source of revenue, in fact, marked a change in the English system of taxation from indirect to direct taxation as the basis of the revenue. As government expenditure on education, public health, insurance, and other social services mounted, increasing reliance was placed on direct taxation to provide the necessary revenue. To the income tax other direct taxes have been added, such as the super tax on incomes above a certain amount, and death duties on estate passing at death. At present, more than half of the entire revenue comes from direct taxes.

In August 1931, the fiduciary issue was increased to £275,000,000, at which figure it remains to-day. In September of the same year, the Bank of England, which had been losing gold heavily in the previous weeks, sought government assistance in the maintenance of its reserves. As a result, Parliament passed an Act forbidding the export of gold, an Act which really declared that England was no longer on the gold standard. Bank notes are no longer convertible into gold and British currency has depreciated in terms of foreign currencies. The present financial and monetary crisis has brought once more into prominence the controversy whether gold is or is not a suitable and effective standard of value.

CHAPTER XIII

SOCIAL POLICY IN INDUSTRIAL ENGLAND

THE PAUPER PROBLEM.—The Poor Law of 1601, combined with the other social measures adopted by the Tudors, helped to alleviate the pauper problem of the sixteenth century. The Poor Law remained until 1834, but the other social measures fell into the background, so that the poor rate was subjected to a strain for which it was not intended. While the country was prosperous, trade flourishing, and employment plentiful, little was heard of the pauper problem, but any change in these conditions was reflected immediately in an increase in the number of paupers. Throughout the greater part of the eighteenth century Britain was fairly prosperous, and the textile industry provided a profitable bye-employment for the farming population. Apart from a few years, when harvests failed, food prices remained fairly low, a fact about which farmers complained, but from which the mass of the people benefited. Under such conditions, the people were fairly contented, the standard of living was rising, and England was steadily getting wealthier. But towards the end of the century, the pauper problem again became acute, owing to causes which we shall now proceed to examine.

CAUSES OF INCREASED PAUPERISM.—The industrial changes which occurred in the textile industries caused considerable economic hardship among the handicraftsmen. The factory system ultimately created more work than it destroyed, and markets extended for the cheaper machine-made products. But people whose work was taken away by the machine, did not look kindly on their destroyer. The spinners were the first to be confronted with the new force. Machine spinning, while it provided an abundance of yarn, and growing prosperity for the hand-loom weavers, created much unemployment among the hand-spinners.

In due course, machine weaving developed, and brought ruin to the countless thousands of hand-loom weavers. True, the new textile factories provided work, but the generation of handicraftsmen, as a rule, did not enter the factories. They struggled hopelessly against the cheaper product of the machine, being reduced, in the process, to extreme poverty. In the factories, women competed for work with men, and children with their parents. To make matters still worse, the factories grew up in the north and west, near the sources of power, while the older industrial centres were in the southern and eastern counties. Consequently, in the new industrial centres, employment was brisk and pauperism was not serious, but the changing localisation of industry crippled the once prosperous cloth-making counties of the south, south-west, and east. It may be argued that people should have left those centres where employment was declining, and settled in those where it was increasing. But, apart from the natural reluctance which people feel to leave their old homes, migration was hampered by the imperfect conditions of transport, and by the state of the law, which still regarded the movement of people as undesirable. Thus the advent of machinery and the factory system contributed largely to the pauper problem of the early nineteenth century.

The changes in agriculture added to the problems of this critical period. The enclosure of land, the loss of common pasture rights, the consolidation of farms, the competition of wealthy farmers, went into the scale against the small farmers, who were ruined in thousands. Many left the villages to go to the towns, there to add to the numbers competing for employment, while others remained in the villages as landless labourers, dependent on the wealthier farmers for employment. In any case, their material position was made worse than before. Those who had depended on a little spinning and weaving as by-employments, lost these chances of adding to their incomes when spinning and weaving entered the factories.

As England developed into an industrial country, she came to depend more and more on foreign trade to provide employment for the people. This meant greater economic instability, since any change in the ability of foreign markets to purchase British goods had an immediate effect on the conditions of

employment at home. When foreign markets were good, employment was plentiful, but when they declined, wholesale unemployment was created in England.

The most critical years were those between 1815 and 1830, the period immediately following the long and expensive French Wars. During this period, agriculture was in a very depressed condition owing to the collapse of the high war prices, and thousands of farmers, who had incurred heavy financial commitments during the inflated war period, went bankrupt. Wages and employment fell away rapidly, and extreme poverty was caused among the rural population, still, it must be remembered, the predominant class in the country. Industry was also depressed by the falling away of markets at home and abroad, due to the general poverty and dislocation which always follow wars. Demobilised soldiers and sailors entered the labour market, and helped to depress wages still further. The war created a big national debt, and heavy taxation was imposed just when the country could least afford the extra burden.

THE CRITICAL YEARS.—It is not surprising, therefore, that the period mentioned was a time of extreme economic hardship and social unrest. The aftermath of the war, combined with the industrial, commercial, and agricultural dislocation, produced a pauper problem far surpassing in its dimensions any that the country had hitherto experienced. The country became a mass of social discontent and revolutionary movements, among which the Luddite Riots and the "Swing Fires" are but examples of many which broke out from time to time in different parts. The discontented workers were ready to join any movement that promised a cure for their social ills, such as Syndicalism and Chartism, which will be described in the next chapter. It is probably true to say that never before had England been so near to a great revolutionary outburst comparable to the French Revolution as during this period.

MEASURES FOR RELIEF.—In the attempt to combat this wave of pauperism, the methods of relief were strained to the breaking point. When the Elizabethan Poor Law was passed, the Privy Council was all-powerful, exercising a strong controlling influence

over the J.P.'s and overseers, who were responsible for carrying out the provisions of the act locally. But, after the Civil War, the Privy Council lost its power, and it ceased to exercise this centralising influence. The administration of the Poor Law became a local matter, without that central check which tended to maintain at least some degree of national uniformity. Parliament did not desire, even if it were possible, to concern itself closely with local matters, and, as a result, wide differences developed in the local treatment of paupers. Towards the end of the eighteenth century, parishes were encouraged to adopt their own schemes with parliamentary sanction. In 1782, the Gilbert Act was passed, allowing parishes, if they so desired, to unite into unions of parishes, to deal with pauperism on a larger scale than was possible for one parish. Those that took advantage of this were called the Gilbert Unions, and some of them erected Union workhouses for the paupers of the united parishes.

The best-known of the local schemes was that named after the parish of Speenhamland, in Berkshire. In 1795, a meeting of the magistrates and overseers of surrounding districts was held in Speenhamland, to discuss the question of pauper relief, a problem which had become acute owing to a sudden rise in the price of bread. They were merely interested in their own local problem, and had no intention of adopting a drastic measure, which was destined to have results of national scope and importance. The meeting decided to adopt a scale of relief dependent on the price of bread and the size of the family, and to extend the relief, not merely to those who were out of work, but also to those who, though employed, were in receipt of wages below the scale adopted. The scale of relief, known as the Speenhamland Bread Scale, was 3/- a week for a man, 1/6 for the wife and for each child, when the price of the quartern loaf was 1/-. These allowances were to vary with changes in the price of the loaf. The novelty of the scheme consisted not only in the sliding scale, but also in the adoption of the precedent of giving allowances to people actually in work. Permission to adopt the scale was granted by the Speenhamland Act of 1795, and subsequently a large number of other parishes adopted schemes based on it. In fact, it was so widely adopted in the south and the east that it assumed national importance.

Among other schemes adopted by various parishes were the "Roundsmen System," under which unemployed paupers were sent round to farmers in the parish, and the "Labour Rate," under which farmers were compelled to employ a certain number of paupers, according to their assessment for poor rates. Under both of these schemes the wages paid by the farmers were supplemented by allowances from the rates, so that farmers could pay any wages they liked. This naturally led to an unfair competition of subsidised pauper labour against ordinary free labour. There was a direct incentive for the farmers to employ the former, and to dismiss their normal workers, dismissal being often only a preliminary to re-employment as subsidised pauper labour.

POOR LAW ANARCHY.—The adoption of these methods led to a very wide variation in the local treatment of paupers, some parishes being very generous, while others went to the other extreme. But in all cases, central control was so much relaxed that it virtually ceased to exist. During the wars and rising prices, an increase in the volume of pauperism occurred, and some historians argue that liberal treatment of the poor was the price paid by England to prevent the spread of the French revolutionary ideas and practices to this country. It was after the wars, however, that the weaknesses of the measures were exposed, and that serious abuses crept into the administration of the Poor Law as a whole. The existence of widely different local schemes operating at the same time produced conditions of extreme chaos. Where scales similar to the Speenhamland Bread Scales were in operation, the lot of the parish pauper receiving relief was often preferable to that of the independent worker, so that there was no incentive to become independent of relief. The allowances to aid wages had a demoralising effect on both workers and masters, reducing the incentive of the former to work and of the latter to pay adequate wages. People became so accustomed to receiving parish relief that a widespread sense of demoralisation prevailed, the parish being regarded as the first, rather than the last resort. An overseer who attempted to check abuses was likely to become extremely unpopular, and he and his property were not infrequently the subject of mob attack. The right to relief was demanded rather than sought for. Similar conditions

prevailed under the other methods, the quality of labour suffering, and incentive to seek work being removed. There were exceptional cases where parishes, under the guidance of able overseers, adopted schemes, which, while they assisted the genuinely unemployed and poor, yet did not remove the incentive to seek and to keep employment. In the north of England generally, and in Scotland, the administration of the Poor Law was not open to the grave abuses which had appeared in the south and east, although it must also be remembered that the industrial and agricultural changes, which were the chief causes for the increased wave of pauperism, affected the southern and eastern counties far more than the north. Between 1820 and 1830 matters became steadily worse. The amount spent in poor relief doubled, reaching the total of over £7,000,000 in 1832. In many cases the poor rate swallowed up the entire rental. The burden was particularly heavy on the farmers. Economic improvement could only come with the adoption of better methods of farming, which in turn involved extra expenditure of capital. With increasing burdens of rates, the ability of farmers to improve their land was reduced, and thus the situation resolved itself into a vicious circle. In 1832, one of the first acts of the reformed parliament was to set up a commission of enquiry into the administration of the Poor Law.

THE POOR LAW AMENDMENT ACT.—The Poor Law Commission made a very thorough investigation of the problem, and their report formed the basis of the Poor Law Amendment Act of 1834. The report concluded that owing to lax administration, unchecked by effective central control, a serious departure had been made from the principles of the Elizabethan Poor Law. Labour had become generally demoralised owing to the ease of securing parish relief, and reform could only be effected by a return to the older principles. They recommended the re-establishment of a strong form of central control, and the imposition of a strict test for pauperism before relief was granted. These recommendations were accepted by the government and embodied in the new Poor Law. A Poor Law Commission was established for five years, to carry out the provisions of the new act, and to introduce national uniformity into the administration.

The commission, consisting of three members, did an enormous amount of work, and, as a result, the following chief reforms were carried out.

(a) Parishes were compelled to unite into unions, six hundred and forty-three unions being created out of over fifteen thousand parishes. In these unions, workhouses were built, in which paupers were to be housed and classified, and entry to which was made a test for pauperism. In other words, outdoor relief was only to be given in very exceptional cases, the condition of relief generally being consent to enter the workhouse. Life in the workhouse was intended to be a deterrent to paupers, by making it less desirable than that of the poorest independent labourer outside the workhouse. This was to be effected by subjecting inmates to a rigid system of discipline.

(b) All measures of relief adopted by the unions had to be sanctioned by the commission, which thus exercised central control over local administration.

(c) The appointment of unpaid overseers was discontinued, and in its place paid officials were appointed, expert in Poor Law administration, and subject, not to the local bodies, but to the central authority, which alone had the right of appointment and dismissal.

(d) Boards of Guardians were elected to look after the workhouses, but they were required to work under the strict supervision of the central body.

THE SETTLEMENT LAWS.—These reforms succeeded in re-establishing national uniformity in the treatment of the pauper problem, and the worst abuses were corrected. At the same time, changes were made in the settlement laws, making it easier for people to move from one part of the country to another in search of employment. As previously indicated, the object of the Settlement Laws was to prevent the migration of people from parish to parish, unless they had a special permit to do so, signed by a J.P. or other responsible person. During the Tudor period, and even until the middle of the eighteenth century, vagrancy had been the most serious aspect of the pauper problem, and these laws had been passed to combat that problem. They had little undesirable effect while it was difficult in any case for people to

leave their district, although they tended to exaggerate the isolation of parishes. Parishes became generally suspicious of all strangers as possible burdens on their poor rate in the future, and expensive law-suits between parishes were frequent, to decide to which a particular family was chargeable. Ultimately, certain conditions were laid down for the acquisition of a settlement, such as a minimum property qualification, or residence for a minimum period of years. By the end of the eighteenth century, these laws had become very serious obstacles to the economic progress of the country. Industries were leaving the south and growing up on the coalfields, resulting in under-population of the north, and over-population of the south. Thus the migration of people from the declining centres to the growing ones not only became highly desirable, but absolutely necessary. Yet the settlement laws hindered such migration. To get rid of their surplus families, parishes had to undertake responsibility for their maintenance if they became unemployed. Cases became frequent where people living in one parish, such as Leeds or Manchester, were maintained, when unemployed, by parishes in the south or east. This was bound to lead to confusion, and to become a source of endless disputes. If the parish of adoption was at all uncertain, it took steps to remove the whole family back to the parish of birth before they were likely to become chargeable. Part of the reform effected by the new Poor Law was to remove the worst anomalies of these settlement laws, and to make the migration of people easier. It was not until much later in the century however, that the right of settlement in any parish became really free from these artificial restrictions.

THE RESULTS.—Pauperism declined appreciably after 1834, and there is no doubt that the more efficient administration of relief was at least partly responsible for this. But the effects must not be over-estimated. Gradual economic recovery was taking place, and industrial expansion was absorbing more people into employment. The building of the railways required considerable labour, while their staffing after they were built provided a further source of employment. The growing coal, iron and textile industries, were adding fresh demands to the labour market, while agriculture, although still in a depressed condition, was

getting over the shock of post-war conditions, and slowly adapting itself to the lower price level. Thus, in any case, we might have expected a decline in pauperism and unemployment, and probably, had not economic conditions been improving, the new Poor Law would have met with far more bitter opposition than it actually did. As it was, the Poor Law Commissioners were very unpopular with the poorer classes.

THE CHANGING NATURE OF THE PROBLEM.—England in 1834, although on the way to becoming a highly specialised industrial country, was still almost self-sufficing, and agriculture remained by far the most important single occupation. Thus the pauper problem was still largely rural and agricultural in character, and the new Poor Law dealt with it as such. Its principles were applicable to the village rather than to the town. The workhouse in the country could be provided with ample land to make it a house of work for people with a knowledge of agriculture.

But during the nineteenth century, England changed rapidly in character. The population increased at a rate never before experienced, from about fourteen millions in 1831 to over thirty-six millions in 1901, and this increase went entirely to the towns. England was urbanised and industrialised, and the pauper problem changed from a rural to an urban one. Though the proportion of paupers did not alter much, with every increase in population the numbers increased proportionally, and workhouses became hopelessly inadequate to deal with the situation. Also the efficiency of the new methods depended largely on the way in which the workhouses were managed, and as time went on, there is no doubt that management became looser and less efficient. The paupers were herded into one building, in which they were supposed to be classified, but the classification, even when carried out, was very imperfect. The sick were housed with the healthy, the old with the young, the children with the adults, physically and mentally unfit with the normal people, a state of affairs which was bound to lead to hopeless confusion and undesirable results. In the towns, even within ten years of the passing of the Poor Law Amendment Act, it became necessary to allow Boards of Guardians to give outdoor relief, particularly to widows and to those temporarily unemployed. As the century

advanced, it was recognised that there was an urgent need for a more scientific treatment of the pauper problem, and a better system of classification. That which suited agricultural Britain could not cope with the needs of industrial Britain.

RECENT CHANGES

(a) CLASSIFICATION.—The undesirability of accommodating paupers of all classes in one building resulted in a scheme for providing special buildings for the different classes. Beginning in 1867, lunatic asylums have been provided for the mentally unfit, where the insane are properly housed and attended, and where they receive special individual attention. Infirmaries have been provided for the sick, on the same principle as hospitals, except that the doctors and nurses are paid out of the poor rates. The workhouses, especially in the towns, have become more and more places for the older people, while the children have been catered for in a variety of ways, principally by the provision of poor law schools, cottage homes, and orphanages. Where possible, they have been found ordinary homes with people who are given allowances out of the rates towards their maintenance. This classification has made for improved treatment of those unfortunately unable to provide for themselves, and for greater efficiency in the administration of the means of relief.

(b) THE OLD.—Before 1908, people who had become too old to work, and who had not been able to save sufficient to provide for old age, had nothing to look forward to but the workhouse or the charity of friends and relatives. In that year, the Old Age Pensions Act was passed, to provide small pensions for those over seventy, who had no means of their own on which to live. Subsequently the principle has been extended to include all over sixty-five, who have contributed to the pensions scheme, while the rates of pensions have been increased. The same principle has been applied to widows and orphans, by the Widows and Orphans Contributory Pensions Act of 1925. By this act, widows and orphans of those working in insured trades (which include over ninety per cent. of the working population) are eligible for pensions under the state scheme.

(c) **INSURANCE.**—The principle of compulsory state insurance has developed into the most important method for dealing with the problem of pauperism. By the Insurance Act of 1911, a scheme of compulsory insurance for illness was established. The insured workers contribute a certain amount per week, to which the employers and the state add, and the payments entitle the insured people to benefits during illness. This deals with one important cause of pauperism.

THE UNEMPLOYED.—But the most important cause of pauperism is that of unemployment. The industrialisation of Britain, together with her dependence on foreign trade, has greatly increased the fluctuations in employment, periods of acute unemployment being familiar experiences. This problem has received the closest attention of statesmen, and many suggestions have been put forward to deal with it. The Industrial Revolution has created "blind alley" occupations for boys, occupations that can only employ them until they reach the age of eighteen, after which they become casual unskilled labourers. The fluctuations of trade, the outbreak of wars, financial panics, and other disorders, react immediately on industries, causing more or less intense waves of unemployment. In 1905 the Unemployed Workmen's Act was passed, setting up local distress committees, which received liberal grants from the Treasury, to assist men temporarily unemployed, but the results proved very disappointing. Four years later, labour exchanges were established all over the country to help employers to find workers, men to find work, and to assist generally in the migration of workers from one part of the country to another. But though they are doing much useful work in these directions, their effect on lessening unemployment has not been great. The commission which reported in 1909 on the administration of the Poor Law, recommended, among other things, the adoption of a scheme of insurance for unemployment. This was embodied in Part II of the National Health Insurance Act of 1911, for a limited number of trades. In 1920, a further act extended it to all trades which came under the Health Insurance scheme, the workers to make weekly contributions, to which employers and state add. From the fund thus provided, weekly benefits varying

with the size of the family are paid during unemployment. This has not had a fair chance yet of proving its worth, owing to the severe depression which the country has experienced since the Great War, but it will undoubtedly do much to alleviate the suffering caused by unemployment, though it does not claim to cure the problem. In the meantime, during industrial depression, municipal relief works, road-building, and other public utility services are promoted to provide work for unemployed, but such measures have only a temporary effect.

Attempts have been made by the state to deal with the problem of the casual labourers, among whom employment is most irregular and insecure. The old system of apprenticeship has almost completely disappeared, and in order to train people for skilled occupations, commercial and technical education has been developed. This has received every encouragement from the government and forms part of the regular educational system of the country. In addition, among other methods to cope with casual labour may be mentioned the raising of the school leaving age, the establishment of adult training centres, and the setting up of local juvenile employment boards to advise children leaving school on the choice of occupation. The problem however, still remains.

RECENT CHANGES.—Among the most serious social problems confronting industrial Britain are still those of pauperism and unemployment. The methods adopted for dealing with them have increased in complexity under modern conditions of large-scale industry and world-wide commerce. By the end of the nineteenth century considerable departures had been made from the Poor Law Amendment Act, although the act itself remained in force. In 1905, a commission was appointed to investigate the whole problem, and it presented its report, a very valuable document, four years later. One recommendation of the commission, that of the insurance system for sickness and unemployment, was carried into effect in 1911. Another committee of investigation reported after the last war, and recommended the specialised treatment of paupers by appropriate bodies, and the abolition of the Boards of Guardians. The Local Government Act of 1929 carried into effect some of these recommendations,

The Boards of Guardians have been abolished and their place taken by Public Assistance Committees responsible to the county and borough councils. Local authorities are encouraged under the act to transfer the care of the pauper children to education committees and the sick to the public health committees of the local councils. The century-old machinery for dealing with the pauper problem has therefore disappeared.

CONCLUSION.—Social policy in the last fifty years has gone far beyond these measures dealing with pauperism. The great sweep of social legislation has radically altered the relations between the state and the individual. Education Acts have provided a comprehensive system of compulsory elementary education, and wide facilities for technical and secondary education. Universities and various adult educational movements are liberally supported and encouraged by the state. In the schools, a great deal is done to safeguard the children's health, by regular medical and dental inspections, together with treatment at school clinics for minor ailments. Malnutrition is detrimental to educational progress, and, in consequence, most education authorities now provide free meals or milk for poor children, especially in necessitous areas.

General public health measures have been extended from those providing the most elementary safeguards for health, like sanitation and street cleansing, to elaborate measures for treating infectious diseases, regular inspections of foods, and a whole series of acts for housing, town planning and slum clearances. Local authorities, under the supervision of the Ministry of Health, are encouraged by subsidies to undertake schemes of slum clearances and rehousing.

The great increase in public services has necessitated the multiplication of government departments and the creation of a new Civil Service. A tremendous growth has also occurred in the system of local government. Beginning with the reform of municipalitics in 1835, when Borough Councils were established, new authorities have been subsequently set up, the County Councils in 1888, and the Urban and Rural District Councils in 1894. The work of these authorities is mainly to administer the social legislation. Thus the country is now covered by a network of administrative machinery to carry out functions, the bulk of which did not exist a century ago.

CHAPTER XIV

THE RISE OF THE TRADE UNIONS

MEDIAEVAL ASSOCIATIONS—The modern trade union movement is a product of the factory system and capitalism, because the industrial population has been divided into two main classes, employers and employees, by those developments. But associations among workers existed even during the Middle Ages, the chief example being the craft guilds. Some historians trace the beginnings of trade unionism to the craft gild system, but these differed almost entirely from trade unions. They included in their membership all those who were connected with the craft, the masters, journeymen, and apprentices, and no barrier existed to prevent the apprentices becoming masters in due course. Membership was also compulsory on all who wished to exercise the craft. The modern trade union is a voluntary association, and its membership is confined to wage-earners. The employers have their own separate and independent associations. When the gild system was in its prime, there did not exist a large body of permanent wage-earners as at present, and thus trade unions, in the modern sense, could not arise. When the guilds broke up, however, into the masters, who associated into livery companies, and journeymen, who formed journeymen guilds, the latter bore a strong resemblance to trade unions. They strove for much the same objects as the trade unions of to-day, namely, improved working conditions and increased wages. The journeymen guilds did not last long however. By the end of the sixteenth century they had almost completely disappeared.

THE TRADE CLUBS.—Between the sixteenth and the eighteenth centuries there were occasional disputes between the merchants and the domestic workers, which showed that local groups of weavers could combine temporarily under stress of a sufficiently

strong grievance. But, on the whole, it was practically impossible for the scattered domestic workers to form lasting associations. The beginnings of modern trade unionism must therefore be sought for in the towns, where the concentration of people would enable groups of workers to unite for common action. Early in the eighteenth century there existed in practically every town various trade clubs, the members of which were drawn together by common interests, such as protection for their trade, improvements in their condition, assistance during trade disputes, and payment of benefits during unemployment and sickness. These trade clubs petitioned the government many times for the enforcement of apprenticeship, for the fixing of wages, and for support against employers using the cheaper labour of the villages. The trade clubs may therefore be regarded as the direct ancestors of the trade unions. When England became industrialised, and the factory system produced the crowding of large numbers of wage-earners into the towns, the trade clubs disappeared, and their place was taken by associations of factory operatives, drawn together by similar interests, and directed towards the same objects as the clubs.

THE COMBINATION ACTS.—Until the end of the eighteenth century, an association which aimed at any legal object, such as the enforcement of the provisions of the Statute of Artificers, was safe from the Law Courts. Petitions from such associations were received sympathetically by the government as a general rule. But any association which aimed at raising wages, reducing hours of work, or the improvement of working conditions generally, could be proceeded against as a conspiracy in "restraint of trade." The fact that the state fixed wages, at least in theory, itself made illegal any attempt on the part of the workers, individually or as a body, to alter the legal rate. Generally speaking, however, trade associations of all kinds were tolerated during the eighteenth century, unless they became particularly offensive to the employers or to the government.

But in 1799, the position was changed by the passing of the Combination Act, which made all combinations among workmen illegal. The act was introduced by Pitt, and was hurried through parliament. The motives for it are somewhat obscure, but

probably it was a panic measure occasioned by a mild outburst of strikes, and by the fear that French revolutionary ideas might spread into this country. There was an attempt to modify it the following year, but the only result was to re-enact the law with the addition that combinations of masters were also made illegal. The acts did not apply to any association that existed for an approved object, like friendly societies, but they made the bargaining position between employers and workmen a very anomalous one. Even a request for higher wages might be interpreted as illegal, though there was nothing to prevent employers offering what wages they liked.

The Combination Acts did not prevent trade associations among workmen, but they drove many of these into becoming secret societies. As such they imposed oaths of secrecy among their members, and they used to meet in out-of-the-way places, usually at night, the record books being buried at the conclusion of the proceedings. Such precautions were, on the whole, exaggerated and needless, as the laws were very laxly administered owing to the absence of efficient machinery for carrying them out. It remained for individual employers, who felt that a particular association was dangerous to their interests, to put the law into operation. As might be expected this led to many anomalies. Some associations openly existed, and were even connived at by the masters, with no legal consequences; while others, possibly more harmless, might be prosecuted, and the leaders sentenced to imprisonment. This occurred in the case of the London Printers, an association approved by the employers until it put forward a claim for increased wages. The masters took action against it in 1810, and leaders were severely sentenced. Therefore, although the acts were not effectively carried out, they made trade associations very insecure and even dangerous for those concerned. ✓

THE REPEAL OF THE ACTS.—After the French war, a movement was set on foot to secure the repeal of the Combination Acts. The chief leader of this movement was Francis Place, a London tailor, who, as a struggling journeyman, had been active in his earlier life in forming an association among the journeymen tailors. His persistence and ability enabled him later to build

up a thriving business in London. His material success provided him with leisure, and he threw himself enthusiastically into the reform movements of his time. Among other things, he was interested in the Factory Acts and the reform of the electoral system, and he was instrumental, more than anyone else, in securing the repeal of the Combination Laws. His shop in Charing Cross became a kind of reform club. A meeting in the little room at the back of his shop was the starting-point of many of those reforms which provide such an important chapter in the history of the nineteenth century. His moderation, combined with rare tact and an unusually wide knowledge of the social conditions of his time, secured for him considerable influence, not only with fellow-reformers, but also with members of parliament, and even with cabinet ministers. Place argued that a government which believed in individual liberty was not justified in withholding from workers the liberty to combine, though he prophesied that the workers as a class did not believe in associating for combined action, and that, if the Combination Acts were repealed, it would make no difference. In 1824, the government yielded. Immediately following the repeal, a host of trade unions appeared, proving that they must have existed before, as secret societies, and incidentally showing that Place's forecast was wrong. The government was alarmed, and in 1825, though it did not re-enforce the Combination Laws, a qualifying bill was passed, which made all agreements in restraint of trade subject to common law, by which such agreements could be punished as conspiracies. Still, the right of association to secure improvements in wages and conditions of work was now legally recognised.

TRADE UNIONS (1825-1875).—The industrial conditions following the French Wars were very bad. Industry was dislocated by the transition to peace, and by the slow recovery of markets; the extension of machinery displaced thousands of handicraftsmen; agriculture was depressed by the sudden fall in prices of corn, while wages declined rapidly and considerably. Such conditions created considerable social unrest in the country, and workers generally were prepared to join any movement that promised improvement. Strikes, organised by the new unions,

were frequent, but they failed to arrest the downward trend of wages. Attempts were made to establish national unions for greater strength in bargaining power, one by the cotton-spinners in 1829, with Doherty as secretary, and another by the builders in 1832. But these attempts were premature, and within a few years they dwindled again to local associations. In 1834, the Grand National Consolidated Trades Union (the G.N.C.T.U.) was started, drawing support from most of the existing trade unions, whose members were dissatisfied with the results achieved by them. The aim of the G.N.C.T.U. was openly revolutionary, to overthrow the existing order by organising a general strike in all trades. Robert Owen, who had become impatient with the gradual reform promised by the government, threw all his energies and most of his fortune into this movement. Within a few weeks its membership was over half a million, but controversies among leaders, and disagreement about methods and aims, resulted in an equally rapid decline. It met with vigorous opposition from the press, the government and the law courts, the latter treating it as an agreement in restraint of trade. Six Dorchester labourers who tried to bring in the agricultural workers were prosecuted, and sentenced to seven years' transportation for merely administering an oath. The employers made it a condition among men they employed, that they should sign a document, declaring they were not members of the G.N.C.T.U., and did not intend to join. The movement collapsed, and for some years trade unionism did not recover from the set-back.

THE CHARTIST MOVEMENT.—In 1839, the Chartist movement was launched, with William Lovett as its chief leader. It grew quickly, drawing support from all parts of the country. The famous People's Charter, embodying the "Six Points," was drawn up, summarising the aims of the movement, which was devoted to political rather than to economic reform. Lovett himself was a very moderate leader who believed firmly in constitutional means to secure his objects. Mass meetings were successfully organised in Birmingham, London and other big cities, and a People's Parliament was set up in London to act as the mainspring of the movement. But within a few years quarrels broke out among the leaders, chiefly on the question of

means to secure reform. By a series of manoeuvres, the moderate leaders were squeezed out, and control passed into the hands of extremists, of whom the chief was Feargus O'Connor. A revolutionary journal, the *Northern Star* was started, with O'Connor as editor, to propagate the doctrines of Chartism. Constitutional methods were abandoned in favour of more direct methods. Chartist riots occurred in various parts of the country, those at Newport, which were intended to be a part of simultaneous risings in other districts, being the best known. O'Connor's lack of principle, his arrogance, and his personal vanity, made him a difficult person to work with, and dissension among the leaders destroyed the unity of the movement. It hung on until 1848, but long before that it had ceased to be effective.

THE NEW MODEL.—In the meantime, during the early 'forties, the "New Model" trade unionism began, adopting more limited aims than the previous movements. (It accepted the existing order, and concentrated on securing within that order such improvements as increased wages, shorter hours and better conditions of work. Paid and expert officials were appointed as leaders, and legal advisers were consulted about methods. To attract members, sickness and unemployment benefits were included in their activities.) The first of these was the Miners' Association, established in 1842, followed by the stonemasons', the ironmoulders', and the steam-enginemakers' unions. In 1850, the Amalgamated Society of Engineers (the A.S.E.) was founded. The growth of this union was so rapid that it soon became the most powerful in the country, its success leading to a universal copying of its aims and constitution by other unions. The period, 1850-1871, was marked by a steady growth of trade unionism on the model of the A.S.E. This growth coincided with increasing industrial and agricultural prosperity, rising wages, and brisk employment. In 1864, the first national conference of the principal unions met to discuss industrial problems as affecting workmen. This was the forerunner of the Trade Union Congress (T.U.C.). Out of this conference there grew a small group of active reformers (the Junta), who aimed at securing more ample legal protection for

trade unions At the same time, political methods to secure economic ends became a recognised policy of the trade union movement. (The increasing strength of the trade unions, however, produced an agitation against them, and in 1867, parliament, in response to this pressure, appointed a Royal Commission to investigate the whole problem.) The Junta used all its power to organise a case before the Commission, (which reported, on the whole, in favour of trade unions, as agents of industrial peace rather than war. The report recommended parliament to grant greater privileges and wider protection to the trade unions, to make them more effective as instruments of collective bargaining.)

THE ACT OF 1871.—The recommendations of the commission formed the basis of an important Trade Union Act passed in 1871. While the debates on the act were proceeding, the newly formed Trade Union Congress, a committee drawn from the principal unions, sat continuously in London, to keep in touch with parliament. The leaders, above all, wanted complete legal recognition for trade unions, and protection for their funds against claims for damages resulting from industrial disputes. While the funds were threatened by such claims, no financial security was possible for them.

By the Act of 1871, it was laid down that it should be no longer illegal for associations to exist, even in restraint of trade. Peaceful picketing was allowed during industrial disputes, and trade union funds were protected by law. At the same time, however, the *Criminal Law Amendment Act* was passed, which made the Conspiracy Laws so rigid that anything done to coerce employers, or other workmen, was illegal. Thus the impossible situation arose that, on the one hand, it was legal for trade unions to declare a strike to secure improvements in working conditions, while on the other hand, the Criminal Law Amendment Act made it impossible in practice, to carry out a strike. The Junta concentrated its efforts on securing the repeal of this act, and they succeeded in 1875. Thus within fifty years of the repeal of the Combination Acts, trade unions were established as legal associations, and henceforward their power for collective bargaining was greatly enhanced. Individual bargains between

employers and workers became the exception, and collective bargains with trade unions became the rule.

TRADE UNIONS (1875-1906).—Following the legislation of 1871 and 1875, a continuous growth took place in trade unionism, in spite of the industrial depression between 1875 and 1894. By 1890 the membership of trade unions reached one and a quarter millions, representing about twenty per cent. of the male working population. The Trade Union Congress became an established institution for dealing with general matters concerning the interests of the workers, and it thus became a continuous link between the various trade unions. Very important reforms in working conditions were secured, mainly by representation to parliament. What the Factory Acts achieved for women and children, the trade unions succeeded in getting for men. The system of truck payment, which, though illegal since 1831, was difficult to put down in practice, was gradually wiped out, except in cases where it was convenient both for employers and men, as in agriculture. The principle of workmen's compensation for accidents was fought for and ultimately granted by parliament. Special regulations were obtained for dangerous trades, and the problem of industrial diseases was brought to the front. Safety devices were recommended from time to time, and considerable success resulted from the agitations of trade unions to get them generally adopted in industry.

Until 1890, however, trade unionism was confined almost entirely to the skilled trades, the contributions for membership being normally so high, that unskilled workers could not afford them. But towards the end of the 'eighties the unskilled workers began to organise, their unions charging lower subscriptions, which did not include unemployment and sickness benefits. The first of these unions was that of the London Dockers, established in 1886. Its early growth was very gradual, but by 1920, the Transport and General Workers' Union, which grew out of it, numbered nearly two million members. Many attempts were made to organise the agricultural workers, by men like Joseph Arch, but little success was achieved until after 1906. It was relatively much easier for those who were crowded into big industrial centres to combine, than for the scattered agricul-

tural workers, but by 1920 the Agricultural Workers' Union had a membership of over three hundred thousand. A growth of trade unionism among shop assistants, clerks, and other similar occupations occurred during the same period.

THE REACTION.—In the meantime, a reaction took place against trade unionism, probably due to the growth in its membership and in its scope. Trade unionism among unskilled workers was hardly anticipated in 1876, when the movement was confined to a few highly skilled trades. The new trade unionism among unskilled workers was regarded, in many quarters, as highly dangerous, and likely to handicap industry in its competition with Germany and America, which were becoming industrialised. Though no attempt was made to modify the trade union law, an unexpected assault on trade unions came from the law courts. In 1901 the Railway Servants' Association was sued by the Taff Vale Railway Company for damages done during a dispute between the company and its employees. The case was taken right through to the House of Lords, the decision going against the union, which was called upon to pay nearly £23,000 damages. The judges held that if any damage was done, it was sufficient for the prosecution to cite one name from among those responsible, not the names of all in the group, which was the general impression current at the time. This decision came as a great shock to the trade unions, since it meant that in future, their funds were liable for any claims for damage done by their members during industrial disputes. Trade union officials began an intensive campaign to alter this position, and to secure again complete legal security for their funds.

THE TRADES DISPUTES ACT.—The culmination of the campaign was the passing in 1906, of the Trades Disputes Act, which has been termed the "Charter of Trade Unionism." This measure enacted that "no civil action shall be entertained against a trade union in respect of any wrongful action, committed by, or on behalf of the union." This made the funds of trade unions completely inviolable against any claims for damages, and placed them in an exceptionally privileged position. Immunity for their funds was absolutely necessary to retain the confidence of

their members, without which, their growth would have been seriously handicapped.

THE OSBORNE JUDGMENT.—The activities of trade unions, by this time, included not merely collective bargaining with employers, but also educational work, friendly society functions, and political work, the latter including the support of candidates for election to parliament, and payment of trade union members who became M.P.'s. In 1909, a railway signalman named Osborne, took action against his union to prevent part of his contribution being used for political work. The case aroused widespread interest, and was carried as far as the final court of appeal, the House of Lords. The verdict went against the trade union, the judges holding that, by the definition of the act of 1871, trade unions were confined to industrial activities, any other activity being illegal. As a result of this decision, all the educational activities, and even the friendly society, as well as the political activities, were liable to be declared illegal. The trade unions were confined to collective bargaining as their sole function. One result of this decision was the payment of members of parliament, begun in 1911, primarily to enable men who otherwise could not afford it, to become M.P.'s.

Another campaign was set on foot to secure legal recognition for trade union activities other than that of collective bargaining. The Trade Union Act of 1913 was the culmination of the campaign. By that act, trade unions were allowed to undertake any legal activities, educational, political, or social, but members were to be allowed to contract out of the political levy, if they disagreed with funds being used for this purpose.

RECENT CHANGES.—During the Great War, trade unionism gained considerably in strength and numbers, the peak year of membership being reached in 1920, when over six million workers belonged to trade unions. A temporary decline set in after that date, owing probably, in the main, to the industrial depression which followed the war. Side by side with this growth, the trade union movement ceased to be local in character, most of the present-day unions being national, with local branches attached directly to the main body. In 1890, most of the trade unions

were small, only three unions having a membership of fifty thousand. Since that date the tendency has been towards a reduction in the number of unions by the amalgamation of small unions, to secure greater financial strength and stronger bargaining power. At present, although there are about one thousand three hundred trade unions in existence, five-sixths of the total number of members belong to about one hundred of the principal unions, while twelve of the unions have a membership of over 250,000 each. The strongest unions at present are the Transport and General Workers' Union, the Miners' Federation, and the National Union of Railwaymen.

Following the General Strike of 1926, an act was passed in 1927, somewhat limiting the act of 1913. Thus, instead of members contracting out of the political levy, the unions are required to get members to signify their agreement to this levy. Any member who does not contract to pay it cannot be called upon to do so. This makes it more difficult for unions to secure funds for political purposes. Also no union may declare a strike in sympathy or in support of another union engaged in an industrial dispute. There is a movement on foot at present to secure the repeal of that act.

CONCLUSION

THE NEW WORLD.—The world of the nineteenth century was profoundly changed by two events, the Political Revolution in France, and the Industrial Revolution in Britain. The former shook the political foundations of the whole of Europe, while the latter did the same to the economic foundations. Both together produced a new world, far removed from anything which has preceded it. The great discoveries of the sixteenth century finally put an end to the mediæval world. These two great revolutions completed the work, and produced the world with which we are familiar to-day.

How far-reaching the changes have been for Britain will be realised by a brief comparison with conditions as they existed just over a century and a half ago. Then, the country was entering on the first stage of industrialisation, with a population about one-fifth of the present, primarily agricultural, with commerce playing a fairly important but subordinate rôle. Life was relatively simple, living plain and somewhat monotonous. Travelling was rare, and the means of travelling had altered but little from what they had been in the Middle Ages. Steam-power was in its infancy, and the steam locomotive had not even been thought of. The great age of invention was only just beginning, the machinery existing at the time being merely aids to the handicraftsman, whose skill was still his most important industrial asset. There were no factory towns with their smoking chimneys, no great steel works with furnaces lighting up the surrounding countryside, no gas or electricity works for lighting and heating, only a few collieries, and these small and primitive, no great docks and shipbuilding yards. Britain was a self-sufficing country, and foreign trade was only a means to secure luxuries, and to dispose of hand-made cloth. The mass of the people were uneducated, not able to read or write. News travelled very slowly, and consisted mainly of the gossip of pedlars and the few

travellers. The newspaper certainly existed, but it was far too expensive for the average person. One copy, weeks old, might find its way to the village, to be read aloud to a curious group by the one person who could read. It is only by recalling such facts as these that we can realise how completely that world has passed away.

To-day we are surrounded by a world of industrialism, and our social and economic life has undergone a complete transformation. Agriculture is still an important occupation, but we do not depend on our own farmers for food. National self-sufficiency has gone for good, and we depend for food on foreign trade. Village life has been replaced by town life, home work by factory occupations, handicrafts by machinery. Life at the same time has become more varied and complex, and the average diet has altered completely. We now take travelling as a matter of course, and we are as much interested in train fares and 'bus fares as our forefathers were in the price of wheat. Travelling by land and sea has been revolutionised by steam and oil, while air travelling at phenomenal speeds, promises to complete the annihilation of distance which steam locomotion began. News of events happening to-day in all parts of the world, becomes generally known to all at the morrow's breakfast-table. Wireless has made the transmission of news even more expeditious than the newspaper, while it adds enormously to the variety of home life by its daily broadcasts. Had we been told, even a few years ago, that a speaker would be able to address a world audience through a small instrument called a microphone, we would not have hesitated to declare it a fantastic dream. Invention has succeeded invention with amazing rapidity, and science has enabled man to harness, more and more completely, the forces of nature to his service.

SOME PROBLEMS.—One supreme thing which these changes have produced is a world of interdependence. Before the age of industrialism, each nation formed a unit, not vitally dependent on other units for its existence. This is still more or less true of some countries, but not for the great industrialised nations of the world. The interchange of products has brought with it the necessity of exchange, vital for the livelihood of the peoples

concerned. For Britain, two centuries ago, trade was a means of wealth. To-day it is a means of living for a big proportion of the population. Then, she was concerned in the main with economic conditions within her own boundary; to-day she is almost equally dependent on economic conditions outside her boundaries. A war in China, a financial crisis in America, depression in European markets, all have direct and immediate effects on the employment of her population. The economic prosperity of industrial and commercial Britain, in common with other nations, rests on factors outside her direct control. There are definite signs that the great nations of the world have realised this, and international discussions at the League of Nations, the World Economic Conferences, and Limitation of Armaments Conferences, are becoming familiar. The last war, which threatened to overthrow the entire structure of western civilisation, hastened this realisation. Britain and the world are moving towards new conditions, new discoveries, new problems. History never stands still, but the events of the past two centuries have moved faster than at any other period in the world's history. The history of the future will move even faster. The World War of 1914-18 will probably be regarded by future historians as the end of a great period in world history, and the beginning of another, during which one thing at least is certain, science and invention will unfold new wonders, of which we now have not the remotest conception.

RECENT CHANGES.—The conclusion of the Great War has been followed by an economic depression of unprecedented magnitude and severity. Periods of depression are usually periods of investigation and enquiry concerning causes and possible remedies for a state of affairs which is responsible for great and widespread social suffering. The Treaty of Versailles profoundly altered the map of Europe. New states were created, like Jugoslavia, Czechoslovakia, Poland and the smaller Baltic states; the boundaries of Germany, Russia and France were considerably changed; while the Dual Monarchy of Austria-Hungary was split up. These changes in political boundaries could not but affect the relative economic positions of the states concerned and of the rest of the world. New states, anxious to

develop their industries and to consolidate their position, adopted protective measures, while the other states found that their economic life had to be more or less considerably reorganised. In Russia, a revolution occurred that has been followed by a complete economic reconstruction of the country, and by an attempt to industrialise at a faster rate than any country has yet experienced. America and Japan have made very rapid economic strides, and are now still more serious competitors for a share of the world markets than they were before the war. Besides all this, new inventions have altered public tastes, changing appreciably the nature of demand, and the adoption of improved technique has made industry and agriculture much more productive. The post-war economic world has thus undergone important changes which have affected very considerably the relative economic position of Great Britain.

THE ECONOMIC CRISIS.—While Great Britain was faced by a very serious unemployment problem between 1921 and 1929, by the latter year the world as a whole had apparently recovered from the major economic shocks of the war. But, in the autumn of 1929, a great slump began which spread rapidly until it involved practically every country in the world. Prices, particularly those of foodstuffs and raw materials, fell alarmingly, and this severely affected those countries which were important exporters of these primary products. Their ability to buy the manufactured goods of the industrialised countries, and to meet their debt obligations incurred to foreign investors, was considerably curtailed, and international trade suffered a very serious reduction in consequence. Germany, owing to the fall in her exports and to the diminution of foreign credits, found it increasingly difficult to meet her reparation payments, and by 1930 was on the verge of bankruptcy. Temporary relief was afforded in the spring of that year by the declaration of the Hoover Moratorium, which suspended for one year all reparation and war debt payments. In 1931, matters had not improved, although a provisional agreement between the European Powers at Lausanne had effected a settlement of the reparations problem. Financial and banking crises occurred in Austria, Germany and America, which made all countries nervous about

their own economic position. The depression deepened, and unemployment reached alarming totals in Europe and in America, while they nearly trebled in Great Britain.

THE ABANDONMENT OF THE GOLD STANDARD.—In August 1931, the Bank of England, which, as has already been described, is the central bank and the holder of the gold reserves in this country, found that a great drain to foreign countries was taking place on her gold holdings. The gold was leaving to meet the demands for withdrawal of foreign deposits in our banks, and to liquidate an adverse trade balance that had developed in consequence of the fall in the exports of our manufactured goods. Large sums of money, in all 130 millions sterling, were borrowed in Paris and New York in order to try and ease the strain, but to no avail. The drain on the Bank's gold increased until it threatened to absorb the entire gold stock. It was evident that foreign confidence in the financial stability of this country was shaken, and that conditions abroad were far from being sound. A serious financial crisis faced Great Britain and its central bank for the first time for over a century. At the same time there was a crisis in public finance. Public expenditure surpassed the estimates, largely owing to the increased burden of unemployment, while revenue was not up to expectations owing to the serious decline in tax receipts. A huge budget deficit was threatened at the end of the financial year. This naturally did not improve matters, and it probably increased the prevailing feeling of nervousness abroad. To meet the latter position a special session of parliament was called, the M.P.'s being recalled from their holidays. A second budget was introduced by the Chancellor of the Exchequer in August. New taxes were imposed and expenditure was subjected to severe cuts. Among the economy measures adopted were a drastic curtailment of public relief works, a reduction in unemployment benefit and cuts in the salaries of public servants and teachers. The financial crisis, however, began to assume the proportions of a panic, and in these circumstances the Bank of England turned to the government for support. In September, an act was passed prohibiting the export of gold from this country, and authorising the Bank to suspend payment of gold on its notes. Thus, Bank of England

notes became inconvertible, and the Gold Standard, to which England had returned in 1925, was abandoned. This had an immediate effect on other countries whose currencies were linked to that of this country, and they were also forced off gold. Other countries were soon involved in a general collapse of the Gold Standard, partly owing to the central position occupied by Great Britain as a world money market, and partly to the disparity between sterling and gold prices on the international exchange. America abandoned the Gold Standard in the spring of 1933, and at present only two countries, France and Holland, remain effectively on gold.

PARTIAL RECOVERY.—For a time there was every possibility of the outbreak of a financial panic in this country, and a run on the banks. The existence of a threatened budget deficit made inflation possible, with its consequent fall in the internal value of the pound. As things were, the exchange value of sterling fell appreciably on the international market, while the price of British government securities declined about twenty per cent. The danger of panic fortunately proved to be only temporary, and very soon a steady recovery occurred in our internal financial conditions. A budget deficit was avoided, although the stringent conditions of economy in public expenditure and the higher level of taxation were continued in the budget of 1932. British government securities recovered, and the credit of the nation improved sufficiently to carry out a very sweeping conversion of a big part of the national debt from a 5 per cent. to a 3½ per cent. basis. On the foreign exchange market, the absence of gold movements has been followed by very wide movements of sterling rates. In order to try and reduce these in the interests of international trade, the government, with the co-operation of the Bank of England, has instituted an Exchange Equalisation Fund, which operates to steady the exchange value of the pound when it threatens to depreciate or appreciate more than it is thought to be desirable. It is the declared intention of the government to return to a gold standard at some future date, when international financial conditions have more completely recovered.

THE CHANGE IN COMMERCIAL POLICY.—Partly as a result of

the financial crisis and to cabinet disagreements on measures to be adopted to deal with it, the government resigned in September 1931. Instead of an immediate dissolution of parliament the Prime Minister, Mr. Ramsay Macdonald, formed the National Government from his supporters in all the three great parties. When the immediate crisis was over the new government appealed to the country, and at the general election which followed it achieved an overwhelming victory. Among the measures which the new government adopted was an act to modify the fiscal system of the country. A general tariff was imposed on all imports of manufactured goods, and a permanent tariff commission was set up to advise the government on further protective measures to secure a schedule of tariffs in conformity with the apparent needs of the industries to be protected. In pursuance of this, the commission was to investigate the claims of the various industries for protection, and the government could then act on its recommendations. It was decided that the protection of agriculture by tariffs was undesirable in view of the degree of dependence of this country on imports for primary products. Other measures of protection have been adopted in this case. British farmers have been granted a quota of the home market for wheat, and in 1932, owing to the serious fall in price in that year, a subsidy to bring up the price to a remunerative level. The quota scheme has been extended to imports, in particular to the importation of wheat, meat and bacon. Internally, the Ministry of Agriculture is empowered to assist and, where it thinks necessary, to initiate schemes of reorganisation in the marketing of British agricultural produce. Examples of these are the egg grading and marketing scheme, and the milk marketing reorganisation scheme.

Thus Great Britain has adopted a comprehensive system of protection, and has abandoned the fiscal system introduced by Peel, and completed by Gladstone in the last century. This change of commercial policy is of profound importance, not only to this country, but to the rest of the world. Already a new series of commercial treaties has been concluded by Great Britain with other countries within the existing framework of tariffs, while economic relations between Britain and the empire have taken on new possibilities.

THE STATE.—As far as Britain is concerned, the state is occupying a far bigger place in the new social and industrial order than even the Tudor State. Apart from the Factory Acts, the various Insurance and Pensions Acts, and public health measures, which seek to control social conditions in the main, there are other fields which the state has entered. Some services, like education, the post office, telegraphs, telephones and wireless, are run by the state. Municipalities control a variety of other public utility services, like water supply and transport. The Board of Trade collects valuable commercial statistics, and provides assistance for business men by information concerning foreign markets and world prices. The Board of Agriculture collects agricultural information, directs research into agricultural problems, and provides free information on these subjects. A scheme of export credits, financed by the Exchequer, has been adopted to stimulate trade. An economic advisory council of experts has recently been set up to advise the Cabinet on all matters connected with industry and trade. The future will probably see further developments along these lines, the state becoming more and more closely connected with the social, political, and economic life of the nation.

REFERENCE BOOKS FOR PART III.

GENERAL

- | | | | |
|---------------------------------------|---|---|--|
| J. H. CLAPHAM | . | . | <i>Economic History of Modern Britain (Vol. I).</i> |
| W. CUNNINGHAM | . | . | <i>Growth of English Industry and Commerce (Modern Times).</i> |
| DANIEL DEFOE | . | . | <i>A Tour through the Whole Island of Great Britain. (Reprint, 1927. Ed. G. D. H. Cole.)</i> |
| C. R. FAY | . | . | <i>Life and Labour in the Nineteenth Century.</i> |
| DOROTHY GEORGE | . | . | <i>London Life in the Eighteenth Century.</i> |
| G. R. PORTER | . | . | <i>Progress of the Nation. Ed. F. W. Hirst.</i> |
| (For Local Agriculture and Industry.) | . | . | <i>Victoria County Histories.</i> |
| C. R. FAY | . | . | <i>Great Britain from Adam Smith to the Present Day.</i> |

AGRICULTURE

- | | | | |
|----------------------|---|---|--|
| WILLIAM COBBETT | . | . | <i>Rural Rides. (Everyman, 2 vols.)</i> |
| W. H. R. CURTLER | . | . | <i>History of English Agriculture.</i> |
| LORD ERNLE | . | . | <i>English Farming Past and Present.</i> |
| J. L. AND B. HAMMOND | . | . | <i>The Village Labourer.</i> |
| A. JOHNSON | . | . | <i>Disappearance of the Small Landowner.</i> |
| GILBERT SLATER | . | . | <i>English Peasantry and the Enclosure of Common Fields.</i> |
| A. W. M. STIRLING | . | . | <i>Coke of Norfolk and his Friends.</i> |

BANKING AND FINANCE

- | | | | |
|----------------|---|---|--|
| A. ANDRÉADES | . | . | <i>History of the Bank of England.</i> |
| W. R. BISSCHOP | . | . | <i>The Rise of the London Money Market.</i> |
| W. T. LAYTON | . | . | <i>Introduction to the Study of Prices.</i> |
| E. T. POWELL | . | . | <i>The Evolution of the London Money Market.</i> |

CONCLUSION

299

- | | |
|----------------------|---|
| J. F. REES . . . | <i>Short Fiscal and Financial History of England.</i> |
| R. D. RICHARDS . . . | <i>Early History of Banking in England.</i> |

COMMERCE

- | | |
|-------------------------|--|
| G. L. BEER . . . | <i>The Old Colonial System.</i> |
| B. HOLLAND . . . | <i>The Fall of Protection.</i> |
| J. W. HORROCKS . . . | <i>Short History of Mercantilism.</i> |
| L. C. A. KNOWLES . . . | <i>Industrial and Commercial Revolutions.</i> |
| LEONE LEVI . . . | <i>History of British Commerce.</i> |
| LORD MORLEY . . . | <i>Life of Cobden.</i> |
| J. S. NICHOLSON . . . | <i>History of the Corn Laws.</i> |
| W. SMART . . . | <i>Economic Annals of the Nineteenth Century.</i>
(2 vols.) |
| T. ARMITAGE SMITH . . . | <i>The Free Trade Movement and Its Results.</i> |
| J. COBDEN UNWIN . . . | <i>The Hungry 'Forties.</i> |
| CLIVE DAY . . . | <i>History of Commerce.</i> |

INDUSTRY

- | | |
|--------------------------------|---|
| T. S. ASHTON . . . | <i>Iron and Steel in the Industrial Revolution.</i> |
| WITT BOWDEN . . . | <i>Industrial Society in England towards the end of the Eighteenth Century.</i> |
| S. CHAPMAN . . . | <i>The Lancashire Cotton Trade and Industry.</i> |
| G. W. DANIELS . . . | <i>The Early English Cotton Industry.</i> |
| FLEMING AND BROCKLEHURST . . . | <i>History of Engineering.</i> |
| J. L. AND B. HAMMOND . . . | <i>The Rise of Modern Industry.</i> |
| Do. . . | <i>The Town Labourer.</i> |
| Do. . . | <i>The Skilled Labourer.</i> |
| L. C. A. KNOWLES . . . | <i>Industrial and Commercial Revolutions.</i> |
| E. LIPSON . . . | <i>History of the Woollen and Worsted Industries.</i> |
| T. MARSHALL . . . | <i>James Watt.</i> |
| P. MANTOUX . . . | <i>The Industrial Revolution (Translation, 1928).</i> |
| SAMUEL SMILES . . . | <i>Industrial Biography.</i> |
| GEORGE UNWIN . . . | <i>Samuel Oldknow and the Arkwrights.</i> |

REFORM MOVEMENTS

- | | |
|-----------------------------|--|
| J. L. AND B. HAMMOND . . . | <i>Lord Shaftesbury.</i> |
| HUTCHINS AND HARRISON . . . | <i>History of Factory Legislation.</i> |
| S. AND B. WEBB . . . | <i>English Poor Law History.</i> |

TRADE UNIONS

- | | |
|----------------------|---|
| G. D. H. COLE . . . | <i>A Short History of the British Working Class Movement.</i> |
| MARK HOVELL . . . | <i>The Chartist Movement.</i> |
| G. WALLAS . . . | <i>Life of Francis Place.</i> |
| S. AND B. WEBB . . . | <i>History of Trade Unionism.</i> |

TRANSPORT

- W. T. JACKMAN . . . *Development of Transportation in Modern Britain.*
 E. A. PRATT . . . *History of Inland Transport and Communication in England.*
 S. SMILES . . . *Lives of the Engineers.*
 S. AND B. WEBB . . . *The Story of the King's Highway.*

PARTICULARLY FOR STATISTICS

- A. L. BOWLEY . . . *England's Foreign Trade in the Nineteenth Century.*
 DO. . . . *Wages in the United Kingdom in the Nineteenth Century.*
 J. H. CLAPHAM . . . *Economic History of Modern Britain (Vol. I).*
 LORD ERNLE . . . *English Farming Past and Present.*
 W. SMART . . . *Economic Annals of the Nineteenth Century.*
 L. C. A. KNOWLES . . . *Industrial and Commercial Revolutions.*
 W. PAGE (ED.) . . . *Commerce and Industry, 1815-1914 (Vol. II).*
 G. R. PORTER . . . *Progress of the Nation.*

INDEX

- Acid steel, 163
- Act of Supremacy, 55
- Act of Union (Scotland), 128
- Africa Company, 79-80, 88, 135
- Agricultural Workers' Union, 286-7
- Alexander, Sir William, 87
- Alfred the Great, 23
- Alien immigrants, 71-2, 93, 98, 148-9, 151
- Alva, Duke of, 71, 93
- Amalgamated Society of Engineers, 284
- Amboyna, 82, 84
- American Civil War, 223
- American War of Independence, 98, 136-7
- Amsterdam, 139
- Anglo-Saxon invasion, 1, 20
- Aniline dyes, 152
- Anne, Queen, 110, 140
- Anti-Corn Law League, 220-1, 246, 249
- Antigua, 87
- Antwerp, 112, 113, 139, 140
- Arch, Joseph, 286-7
- Archangel, 78-9
- Arkwright, Sir Richard, 183-5, 194
- Armada, 55, 76, 81, 89
- Ashley, Lord, 205, 208
- Assiento Contract, 131, 135
- Asylums, 275
- Augsberg, 39
- Aylesbury, 20
- Aztecs, 51
- Bahamas, 87
- Bailey, Sir John, 154
- Baillif, 12
- Bakewell, Robert, 120-1, 217
- Balance of Trade Theory, 90
- Balks, 10, 13
- Baltimore, Lord, 87
- Bank, 63, 76, 112, 139-48, 254-60
 - Charter Act, 258-9, 260
- Bankers' Clearing House, 259
- Bank of England, 112, 143-6, 147, 254-60
 - Restriction Act, 255-6
- Barton aqueduct, 168
- Basic slag, 163
 - steel, 163
- Basildon, 118
- Bath, 172
- Bedminster, 173
- Bell, Graham, 239
- Bergen, 39, 43
- Berlin Decrees, 244
- Bermudas, 87
- Bessemer converter, 161-2, 163
- Bessemer, Henry, 161-2
- Birmingham, 129, 151, 168, 190
 - 195, 196, 226, 256, 283
- Bismarck, 128
- Blackburn, 183
- Black Death, 15-16, 22, 27
- Blackwell Hall, 29
- Blanket, Thomas, 70
- Bleaching, 188
- Blenkinsopp, 228
- Board of Agriculture, 123, 225, 292
 - — Guardians, 272, 274, 277-8
 - — Health, 205, 206, 211
 - — Trade, 234, 248, 292
- Bolingbroke, Lord, 123
- Bolton, 183, 185
- Bombay, 82, 84, 134
- Boston, 39, 76
- Bosworth, 47
- Boulton, Matthew, 190, 196
- Bradford, 196
- Brampton, 187
- Brassware, 129, 151
- Bridewell, 103
- Bridges, 31, 64, 178-9, 181
- Bridgewater Canal, 167
- Bright, John, 220
- Brighton, 233
- Brindley, James, 167-8

- Bristol, 19, 20, 28, 31, 38, 70, 77,
 126, 158, 166, 168, 173, 176, 233,
 238, 256
 Bruges, 39, 42, 139
 Brunel, 236, 239
 Brunel gauge, 231, 232
 Brunswick, 29
 Brussels, 139
 Buckingham, Duke of, 87
 Buddle, 153
 Bullion Committee, 256
 — theory, 89-90
 Burford, 23
 Burgess, 8, 21, 33, 110
 Burghclere, 60
 Burghley, Lord, 102
 Bury, 69, 183
 Bury St Edmunds, 20, 22
 Buxton, 167

 Cabinet, 109-10, 292
 Cable, 237, 239
 Cabot, John, 51
 Cabot, Sebastian, 78
 Calais, 42, 239
 Caledonian Canal, 170
 Cambridge, 20, 166
 Campion, William, 68
 Canals, 112, 164, 166-71, 173, 181,
 196, 202, 214, 226, 233, 234, 242
 Canute, 3
 Canynoges, 38
 Cardiff, 195, 196
 Cardwell's Act, 234
 Carlisle, 172, 176
 Carolina, 87, 136
 Carron Ironworks, 160, 190
 Cartwright, Edmund, 186-7
 Caxton, 55
 Cementation process, 161
 Census, 114, 200
 Chadwick, Edwin, 205, 206, 211
 Chamberlain, Joseph, 253
 Chancellor, 52, 78
 Charcoal, 73
 Charles I, 56, 66, 84, 87, 107, 109,
 141, 261
 Charles II, 84, 95, 108, 131, 134, 136
 Charter, 20-1, 38
 Chartism, 268, 283-4
 Chemical industry, 152
 Chepstow, 175
 Cheques, 143, 258-60
 Chester, 27, 170, 171, 195
 Chesterfield, 187
 Chlorine, 188
 Chorley, 184
 Civil War, 56, 79, 84, 87, 94, 107,
 108, 109, 125, 132, 142, 261
 Clive, Robert, 134, 136
 Coal for smelting, 73-4, 157-60
 — gas, 152, 190
 Coal-mining, 72, 111, 151, 152-7,
 165, 170, 181, 196
 Coalbrookdale, 129, 158, 228
 Cobden, Richard, 220-1, 249
 Coke, Thomas, 217
 Colbert, 127, 148
 Colchester, 19, 71, 72, 183
 Cologne, 39
 Colonial Conference, 253
 Columbus, 50
 Combination Act, 280-2
 Commons, 10, 57, 58, 111, 112, 115,
 116
 Commutation, 8, 14-15, 16, 21
 Constantinople, 48, 55
 Continental System, 243-4
 Conversion to pasture, 16, 58, 63,
 65, 115
 Cooper, W. Ashley, 205
 Co-operative store, 204
 Copernicus, 48, 50
 Copyholders, 59-60, 61-2, 118
 Corn Bounty Act, 91, 219
 Corn Laws, 91, 98, 218-22, 246
 — — Repeal, 221-2, 248
 Cort, Henry, 159-60
 Cortez, 51
 Cottagers, 9, 11
 Cotton industry, 72, 111, 129, 149,
 150-1, 181-5, 206-8
 County Councils, 177
 Coventry, 29, 35, 71, 195
 Craft guilds, 24-7, 28, 29, 54, 69-71,
 74, 91-3, 100, 101, 279
 Crawshay, R., 194, 196
 Crewe, 232
 Criminal Law Amendment Act, 285
 Crompton, Samuel, 185
 Cromwell, Oliver, 84, 87, 88, 107-8,
 142, 166
 Crowley, 60
 Crusades, 22, 38
 Cunard Line, 235

- Cutlery, 129, 151
 Cylinder printing, 188

 Dale, David, 204
 Danish invasions, 2-3
 Dantzig, 39
 Darby, Abraham, 158, 160
 Darlington, 230
 Dartmouth, 188
 Davenant, Sir Charles, 125-6
 Davy, Sir Humphry, 154
 Defoe, 126, 128, 129
 Demesne, 7, 8, 10, 14, 16, 20, 22,
 33, 58, 65
 Derby, 232
 Diaz, Bartholomew, 50
 Discoveries, the, 48-53, 77, 98, 290
 Dishley, 120
 Disraeli, 265
 Doherty, 283
 Domestic System, 70-1, 148, 192-3,
 198
 Domesday Book, 4-5, 7, 9
 Doncaster, 172
 Dorchester labourers, 283
 Dordrecht, 42
 Drake, Sir Francis, 52, 80, 85
 Drapers, 26, 28, 69
 Dudley, Dud, 73, 158
 Durham, 20, 33

 Easterlings, 39, 40
 East India Co., 78, 80-4, 88, 90, 108,
 131, 132-4, 150, 151, 202
 Eastland Co., 135
 Edward II, 28
 Edward III, 28, 29
 Edward VI, 102
 Eden Treaty, 130-1, 247
 Edict of Nantes, 148-9
 Edinburgh, 175, 178
 Egbert, 2
 Electrical power, 156, 239
 Electric Telegraph Co., 239
 Elizabeth, 40, 54, 55, 56, 76, 80, 140,
 141, 142
 Ellicott Canal, 170
 Empire Marketing Board, 253
 Enclosure, 14, 16, 19, 57-63, 65, 101,
 115-8, 194, 267
 — Act, 61-2
 Engineering, 111
 Enumerated commodities, 96, 250

 Ermine Street, 172
 Exeter, 20, 166, 167
 Explosions in mines, 153-4

 Factory Acts, 204, 205, 206-9, 282,
 286, 292
 — System, 111-2, 113, 185, 186,
 190, 192-200, 202-13, 266-7, 279
 Fairs, 31, 33-7, 241-2
 Fallow, 10
 Feudal System, 4, 8, 20, 54
 Fire of London, 113, 141
Firma Burgi, 21, 28, 71
 Fishing, 94, 98
 Fishmongers, 28
 Flanders, 28, 29, 35, 77
 Flanders Gallies, 39, 76
 Flodden, 29
 Flooding of mines, 153
 Florence, 139
 Fontley, 159
 Forest of Dean, 73, 129, 195
 Forth-Clyde Canal, 170
 Fosseyway, 172
 Foster, 228
 Fox, Fowler & Co., 260
 Franchise, 110
 Freeholders, 60, 110
 Freeman, 7-10
 French Revolution, 127, 129, 131,
 161, 245, 268, 281, 290
 — Wars, 123, 131, 214-8, 243-4,
 254-8, 268
 Fuggers, 76, 139
 Fulton, 235

 Gambia, 88
 General Enclosure Act, 116
 George I, 136
 George II, 175
 George III, 123
 Georgia, 136
 Ghent, 139
 Gibraltar, 131, 136
 Gilbert Act, 269
 Gild Merchant, 22, 23-4, 25
 Gladstone, W. E., 248, 249, 251, 265
 Glasgow, 129, 176, 189, 196
 Gloucester, 20, 22, 73, 166, 258
 Godfrey, 144
 Gold Coast, 88
 Goldsmiths, 28
 Goldsmith Bankers, 112, 142 3, 144

304 THE ECONOMIC HISTORY OF ENGLAND

- Gold Standard Act, 257
 Graham, Sir James, 208
 Granary System, 66, 67
 Grand Junction Canal, 170
 — Trunk Canal, 168
 Great North Road, 173
 Great War, the, 225, 263, 288, 292
 Greenock, 189
 Gresham, Sir Thomas, 141
 Guiana, 87
- Haberdashers, 26
 Hackworth, 228, 230
 Hamburg, 39
 Handloom, 187, 188, 198, 266
 Hansards, 39-40, 76
 Hanse League, 39-40, 43, 44, 76, 135
 Hardy, Thomas, 195
 Hargreaves, James, 183
 Harrogate, 176
 Hartlepool, 232
 Hastings, 74
 Hawkins, Sir John, 52, 79
 Hedley, 228
 Henry VII, 43, 47, 77
 Henry VIII, 29, 55, 64, 68, 76, 140
 Hereford, 20, 73, 156, 166
 Heriot, 9
 Hexham, 179
 Highways Act, 172, 177
 Hodgeson, Rev. John, 154
 Holkam, 217
 Holstead, 72
 Holyhead, 176
 Hooghley, 82
 Horrocks, 187
 "Horse Hoeing Husbandry," 119
 Hot-blast process, 160
 House of Correction, 103
 Housing, 198, 205, 211, 212
 Howberry Farm, 118
 Huddersfield, 71, 196
 Hudson Bay, 136
 Hudson Bay Co., 52, 87, 135
 Hudson, John, 136
 Huguenots, 72, 148-9, 151
 Hull, 38, 127, 168, 256
 Hundred Years War, 28
 Hungerford, 119
 Huntsman, Benjamin, 151, 160-1
 Huskisson, William, 231, 247, 248
 Hutchinson, Ann, 87
- Incas, 51
 Income-tax, 263-5
 Ine, 2
 Inquests, 154
 Inspectors, factory, 207
 — Mines, 157
 Insurance Act, 276
 Interlopers, 132, 133
 Interregnum, 107-8
 Ipswich, 28, 29, 69, 72
 Irish famine, 222
 Iron and steel, 111, 160-4
 — smelting, 73, 97, 129, 151, 157-60, 165, 170, 181, 195, 196
- Jack o' Newbury, 29
 Jacquard loom, 188
 Jamaica, 88
 James I, 56, 66, 84, 93, 97, 98, 140
 James II, 108
 Jamestown, 86
 Jenny, spinning, 183, 184, 186
 Jessop, William, 227
 Joint stock, 77-8, 83
 — — banks, 112, 144, 146, 258-60
 Journeymen guilds, 26-7, 29, 279
 Junta, 284-5
 Justices of the Peace, 63, 92, 102, 103, 172, 177, 203, 269, 272
- Kay, John, 182-3
 Kay's fly shuttle, 181, 186
 Kempe, John, 29
 Kennet-Avon Canal, 170
 Kensington, 175
 Ket's Rebellion, 60
 Knaresborough, 175-6
- Lagos, 88
Laissez-faire, 173, 186, 201-3, 213, 234, 250-1
 Latimer, Bishop, 64, 65
 Laud, Archbishop, 56
 Lavenham, 69
 Leaseholders, 16, 58
 Lechlade, 128, 166
 Leeds, 71, 170, 183, 196, 228, 273
 Leicester, 22
 Leith, 178
 Leominster, 128
 Levant Co., 79, 80, 132-3, 135
 Lincoln, 19, 36, 172
 Linen industry, 72, 129, 149, 151

- Lisbon, 80, 81
 Liverpool, 126, 156, 168, 170, 195,
 196, 230, 231, 242, 256
 Livery Companies, 27-8, 29, 69
 Local Government Board, 211
 Locomotives, 112, 152, 160, 164,
 190, 226-31, 290
 Lombards, 40, 140
 Lombard Street, 40, 140
 London, 19, 23, 28, 29, 31, 33, 34, 35,
 36, 39, 40, 42, 65, 66-8, 72, 76,
 92, 96, 103, 114, 123, 127, 128,
 129, 142-4, 145, 151, 161, 166,
 170, 172, 175, 189, 196, 205, 228,
 233, 237, 238, 244, 253, 254, 258,
 281
 — Bridge, 178
 — Co., 85-6
 — Dockers Union, 286
 Long Melford, 69
 Lord Mayor's Show, 26
 Loughborough, 120
 Louis XIV, 108, 143
 Lovett, William, 283
 Lubeck, 39
 Luddite Riots, 268
 Luther, Martin, 55
 Lynn, 39, 76

 Macadam, John, 175, 176-7
 Mackworth, Sir Humphrey, 227
 Madras, 82
 Magellan, 50
Magnus Intercursus, 77
 Mail coaches, 174, 177, 233
 Manchester, 20, 71, 156, 167, 168,
 185, 196, 203, 230, 231, 242, 246,
 258, 273
 Manorial Court, 8, 11-12, 62
 — system, 6-18, 54, 111
 Marconi Co., 240
 Markets, 1, 33-7, 248
 Mariner's compass, 48
 Marshall, 175
 Martin Brothers, 162-3
 Mary, 76, 140
 Maryland, 87, 136
 Massachusetts, 87
 Massacre of St Bartholomew, 72
 Meadow, 10
 Mechanical transport, 112, 152, 163,
 177, 214, 223, 226-40, 252
 Mediterranean, 2, 3, 5, 38, 43, 48,
 52, 76, 77, 80, 131, 134
 Menai Suspension Bridge, 179
 Merchant Adventurers, 43-4, 69, 77
 — Staplers, 42-3, 77
 — Taylors, 69
 Merthyr, 171, 196
 Messanges, 11
 Metcalf, John, 175-6
 Methuen Treaty, 131
 Middlesborough, 232
 Milan Decrees, 244
 Mineral and Battery Works, 73
 Miners' Association, 284
 — Federation, 289
 — Union, 209
 Mines and Collieries Act, 157, 203,
 205, 208-9
 Mines Royal Co., 73
 Minorca, 136
 Molasses Act, 97
 Monasteries, 20, 22, 31, 32, 100, 102
 — dissolution of, 63-4, 92, 101, 172
 Money rent, 11, 14
 Monmouth, 129
 Monmouth's Rebellion, 108
 Monopoly, 73, 77, 82, 85, 96, 132,
 133, 144, 234
 Montague, 144
 Montreal, 136
 More, Sir Thomas, 60
 Moscow, 244
 Motor transport, 113, 177
 Mule spinning, 185-6
 Munich, 39
 Munitions industry, 73
 Murdock, William, 152, 190, 228
 Muscovy Co., 78-9, 135
 Myddleton, Hugh, 68
 Mystery plays, 26

 Napoleon, 125, 243-4
 Narva, 79
 National Debt, 147, 185, 260, 261-3
 National Union of Railwaymen, 289
 Navigation Acts, 94-6, 98, 108, 137,
 202, 247-9, 250
 Neath, 227
 Need, Samuel, 184
 Neilson, James, 160
 Newcastle, 73, 77, 127, 129, 152, 172,
 175, 195, 226, 229
 Newcomen, 153, 188, 189, 229

306 THE ECONOMIC HISTORY OF ENGLAND

- New Draperies, 71-2
- New England States, 85-8, 96, 97-8, 136, 137
- Newfoundland, 51, 85
- New Lanark, 194, 204
- New Leicestershires, 121
- Newspapers, 239, 291
- Newport, 175, 284
- Newtown, 128
- New York, 88, 176
- Norfolk system, 120
- Norman invasions, 3-5, 6
- Northcote, Sir Stafford, 262, 265
- Norwich, 19, 28, 29, 66, 71, 72, 103, 195, 256
- Notes, 144, 146, 147, 238, 256
- Nottingham, 22, 129, 183, 184, 195, 232
- Nova Scotia, 87, 136
- Novgorod, 39

- Oastler, Richard, 206
- O'Connor, Feargus, 284
- Old Age Pensions Act, 275
- Old Colonial System, 95-9, 137, 245, 247-8, 249-51
- Open hearth process, 162-3
- Ormutz, 82
- Osborne Judgment, 288
- Overseers of the poor, 103-4, 269, 270-1
- Owen, Robert, 194, 204-5, 206, 283
- Oxford, 20, 31, 128

- Paisley, 129, 196
- Palmer, John, 174, 238
- Paris, Treaty of, 134, 136
- Paterson, William, 144
- Paul, Lewis, 151, 184
- Peasants' Revolt, 16, 40
- Pease, Edward, 230
- Pedlar, the, 12, 113, 241
- Peel, Sir Robert, 221, 248, 251, 259, 262, 264-5
- Penn, John, 87
- Pennsylvania, 87
- Pepys, Samuel, 141
- Petty, Sir William, 125-6
- Phosphoric ores, 161, 163
- Pie powder court, 35, 36
- Pilgrimage of Grace, 69
- Pilgrim Fathers, 86

- Pitt, William, 130, 247, 262, 263-4, 280
- Place, Francis, 206, 281-2
- Plagues, 15, 113, 211
- Plymouth, 74, 233
- Co., 85-6
- Poor Law, 100-4, 205, 266, 269
- — Amendment Act, 205, 271-2, 277
- — Board, 205, 274-8
- Population, 111, 114, 147, 213, 214, 274
- Portsmouth, 74, 238
- Portobello Fair, 131
- Post Office, 237-8, 292
- Potteries, 168, 196
- Pottery industry, 151, 170, 196, 208
- Power loom, 187-8
- Preston, 183, 184
- Printing, 55
- Private Enclosure Acts, 116-8
- Privy Council, 63, 109, 268-9
- Prosperous Farm, 119
- Public Assistance Committee, 278
- Health, 15
- — Act, 212
- Puddled iron industry, 159-60, 162

- Quarter Sessions, 177
- Quebec, 136, 137

- Railway and Canal Commission, 234
- Rates Tribunal, 235
- Railways, 112, 155, 160, 164, 177, 214, 223, 226-35, 242, 252, 273
- Rainhill, 231
- Raleigh, Sir Walter, 52, 85
- Raynham, 119
- Reading, 66
- Rebecca Riots, 173
- Redruth, 152, 228
- Reeve, 12
- Reform Act, 110, 220
- Reformation, 55, 64
- Refrigeration, 224
- Regulated company, 77-8
- Renaissance, 54-5
- Rennie, 170, 178
- Restoration, 84, 87, 108, 132, 142
- Retainers, 47, 101
- Reverberatory furnace, 159
- Rhode Island, 87
- Ricardo, David, 256

- Richard I, 39
 Rivers, 31, 121, 156, 165-6, 226
 Roads, 31, 64, 112, 119, 121, 165,
 171-8, 181, 202, 214, 242
 Roberts, Richard, 186, 187
 Rocket, the, 231
 Roebuck, Dr, 160, 190
 Roller spinning, 184
 Rollers for iron, 159
 Roman invasion, 1
 — law, 1, 2
 Roman Villa System, 2
 — roads, 2, 32, 171-2
 Rotten boroughs, 110
 Rugby, 233
 Runcorn, 168
 Russell, Lord John, 248
 Russia Co., 78-9, 135
 Rye, 74

 Sadler, Michael, 205
 Safety lamp, 154
 Sailing ships, 115, 223, 235-6
 St. Albans, 20
 St. Ives, 33, 36
 Sandwich, 72
 Sanitation, 15, 198, 199, 205, 211
 Sankey Brook Canal, 167
 Savery, T., 188
 Savonarola, 55
 Scandinavia, 2, 4, 243
 Scriveners, 141
 Sebastian del Cano, 51, 52
 Serfs, 9, 54
 Settlement Laws, 102, 272-3
 Seven Years War, 134, 136
 Shaftesbury, Earl of, 205, 206
 Sheffield, 73, 129, 151, 161, 166
 Shipbuilding, 73, 74, 86, 94, 97, 98
 Ship money, 56
 Shrewsbury, 170, 176
 Siemens Brothers, 162-3
 Silk industry, 149, 151
 Sinclair, Sir John, 123
 Slaves, 9
 — Emancipation, 251
 — trade, 79-80, 130, 131, 135, 137
 Smallholders, 224
 Smeaton, 170, 178
 Smith, Adam, 127
 Smith, Andrew, 156
 Smithfields, 128
 Society of Arts, 123, 187

 Soho Engineering Works, 190
 Southampton, 20, 36, 39, 79, 100
 South Sea Bubble, 135, 145
 Speenhamland Act, 269-70
 Spice Islands, 84
 Spinning jenny, 183
 Spring, Sir John, 69
 Stamford, 72
 Staple, 42
 — Act, 96
 Statute of Artificers, 92-3, 102, 186,
 201, 280
 — — Labourers, 15-16
 — — Merton, 14
 — — Winchester, 33
 Steam shipping, 112, 160, 164, 223,
 235-7
 — power, 152, 155, 158, 160, 164,
 168, 171, 182, 186, 188-91, 290
 Steel, 160-4
 Steelyard, 39, 76
 Stephenson, George, 228-32
 Stephenson gauge, 231
 Steward, 11, 12
 Stock, 103
 Stock-breeding, 115, 170-1, 217
 Stockton, 230, 232
 Stourbridge, 34, 36, 166, 241
 Stowmarket, 69
 Strutt, Jedediah, 184
 Sturdy beggars, 101-2
 Sudbury, 69
 Sunderland, 154
 Surat, 82, 134
 Surrey Iron Railway, 227
 Surveyors of highways, 172
 "Sweated" industries, 206, 210
 Swindon, 232, 233

 Taff Vale Case, 287
 Taunton, 166
 Tavener, John, 38, 43
 Telegraph, 239-40
 Telford, Thomas, 170, 175, 176,
 177, 178
 Thirty Years War, 107-8
 Thomas, Gilchrist, 163
 Tin-plate industry, 197
 Townshend, Viscount, 119-20, 121,
 217
 Trade Boards Act, 210
 — clubs, 279-80
 — Disputes Act, 287-8

308 THE ECONOMIC HISTORY OF ENGLAND

- Trade Unions, 209-10, 279-89
 - Union Act, 285
 - Congress, 284, 285-6
- Transport and General Workers' Union, 286, 289
- Trent and Mersey Canal, 226
- Trevithick, Richard, 228
- Trinidad, 87
- Truck system, 209-10, 286
- Tull, Jethro, 118-9, 121, 124, 217
- Turnips cultivation, 120
- Turnpike roads, 146, 173-5, 227, 233
- Unemployed Workmen's Act, 276
- Unemployment, 102-4, 205, 268, 276-7
 - Insurance, 276-7
- Unions of parishes, 269, 272
- Usury Laws, 140
- Utrecht, Treaty of, 131, 135, 136
- Vasco da Gama, 50, 80
- Venice, 25, 38-9, 48, 50, 76, 77, 80
- Ventilation of mines, 153-4
- Vermuyden, 167
- Vespucci, Amerigo, 50
- Vienna, 48
- Vikings, 3, 4
- Villeins, 7, 8-9, 10, 11, 14, 16, 22, 33
- Vineland the Fair, 3
- Vintners, 28
- Virgate, 11, 14, 16
- Virginia, 85, 86-7, 97, 136
- Wakefield, 187
- Walpole, Sir Robert, 119, 123, 261
- Wars of the Roses, 47
- Washington, George, 136
- Wastes, 10, 57, 111, 216
- Water power, 182, 184, 186, 203
 - supply, 67-8, 198, 211
- Waterloo Bridge, 178
- Watling Street, 171-2
- Watt, James, 152, 153, 155, 189-91, 194, 196, 227
- Weald, 73, 129, 157, 195
- Wealth of Nations, 127
- Weavers' Act, 71, 92, 98
- Wedgwood, Josiah, 196
- Welshpool, 128
- Westminster, 152, 204
- Westphalia, Peace of, 107-8
- Wheatstone and Cooke, 239
- Wheeler, 77
- Whitehaven, 227
- White Star Line, 236
- Whittington, "Dick," 29
- Widows and Orphans Pensions Act, 275
- Wilkinson, 190, 196, 236
- William I, 4
- William III, 109, 143
- Williams, Roger, 87
- Willoughby, 52
- Winchcombe, John, 29, 70, 192
- Winchester, 19, 22, 28, 33, 36, 39, 195
- Wireless, 113
- Wire rope, 156
- Wolfe, General, 136
- Wolsey, Cardinal, 62
- Wolverhampton, 188
- Woollen industry, 5, 12, 28-30, 43, 61, 68-72, 91-2, 93, 97, 99, 111, 129, 148-50, 181, 195-6
- Worcester, 71, 195
- Wordsworth, 38
- Workhouse, 103, 272, 274-5
- Workmen's Compensation Act, 209, 286
- Worsley, 156, 167
- Wycliffe, John, 16
- Wylam, 228, 229
- Yardland, 11
- Yeomen farmers, 116
- Yeomanry, 27
- York, 19, 22, 29, 171, 172
- Young, Arthur, 118, 120, 122-3, 175

